Allen-Bradley

ControlLogix Drive Module

1756-DMD30, 1756-DMF30

User Manual

Rockwell Automation

Important User Information

Solid state equipment has operational characteristics differing from those of electromechanical equipment. "*Safety Guidelines for the Application, Installation and Maintenance of Solid State Controls*" (Publication SGI-1.1 available from your local Rockwell Automation Sales Office or online at **http://www.ab.com/manuals/gi**) describes some important differences between solid state equipment and hard-wired electromechanical devices. Because of this difference, and also because of the wide variety of uses for solid state equipment, all persons responsible for applying this equipment must satisfy themselves that each intended application of this equipment is acceptable.

In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

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Throughout this manual we use notes to make you aware of safety considerations.

WARNING

Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.

ATTENTION

Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss.

IMPORTANT

Identifies information that is critical for successful application and understanding of the product.

Rockwell Automation Support

Before you contact Rockwell Automation for technical assistance, we suggest you please review the troubleshooting information contained in this publication first.

If the problem persists, call your local Rockwell Automation representative or contact Rockwell Automation in one of the following ways:

Phone	United States/Canada	1.262.512.8176
	Outside United States/Canada	You can access the phone number for your country via the Internet: 1. Go to http://www.ab.com 2. Click on *Product Support* (http://support.automation.rockwell.com) 3. Under *Support Centers,* click on *Contact Information*
Internet	⇒	1. Go to http://www.ab.com 2. Click on *Product Support* (http://support.automation.rockwell.com)

Your Questions or Comments on this Manual

If you find a problem with this manual, please notify us by using one of these two methods:

- Filling out the enclosed "How Are We Doing" form
- Filling out the "Tell Us How We Can Make Our Manuals Better" form online at **http://www.ab.com/manuals/dr/manuals_feedback.html**

The table below summarizes the changes to this publication since the last update:

For this updated information:	See:
Reliability specification	A-1
Documentation of 1756-DMD30 (Firmware Revision 2.01) Algorithms, Parameters and Faults	B-1
Documentation of 1756-DMF30 (Firmware Revision 1.09) Algorithms, Parameters and Faults	C-1

Notes:

About This Preface

This preface describes how to use this manual. The following table describes what this preface contains and its location.

Who Should Use This Manual

You must be able to program and operate an Allen-Bradley Control**Logix**™ Logix controller and ControlLogix I/O modules to efficiently use your Drive module.

We assume that you know how to do this in this manual. If you do not, refer to Related Documentation, before you attempt to use this module.

IMPORTANT SynchLink must be used in conjunction with a standard control network, such as ControlNet or Ethernet. A standard network is used for general control interlocking and transfer of diagnostic data across the system.

SynchLink does not function as a standard control network (e.g. it broadcasts data in a unidirectional manner).

Purpose of This Manual

This manual describes how to install, configure, and troubleshoot your ControlLogix Drive module.

What This Manual Contains

This user manual contains the following sections:

- Description of the Drive module
- Description of Drive Communication
- Description of Drive module certifications and features
- Description of how to install the Drive module and connect the fiber optic cables
- Description of how to configure the Drive module with RSLogix 5000 and DriveExecutive programming software
- Description of how to troubleshoot the Drive module
- Listing of Drive module specifications
- Information specific to the SD3000 Interface (1756-DMD30)

Related Products and Documentation

The following table lists related Allen-Bradley products and documentation:

Table Preface.A
Related Documentation

Catalog number:	Document title:	Pub. number:
1756-DM	ControlLogix Drive Module Installation Instructions	1756-IN577
1756-A4, -A7, -A10, -A13	ControlLogix Chassis Installation Instructions	1756-IN080B
1756-PA72, -PB72	ControlLogix Power Supply Installation Instructions	1756-5.67
1756-PA75, -PB75	ControlLogix Power Supply Installation Instructions	1756-5.78
1756-Series	ControlLogix Module Installation Instructions (Each module has separate installation document.)	Multiple 1756-IN numbers
1756-Series	ControlLogix System User Manual	1756-UM001
Multiple numbers	SynchLink Design Guide	1756-TD008
1751-SLBA	SynchLink Base Block Installation Instructions	1751-IN001
1751-SL4SP	SynchLink 4-port Splitter Block Installation Instructions	1751-IN002
1751-SLBP	SynchLink Bypass Switch Block Installation Instructions	1751-IN003
PowerFlex 700S	PowerFlex 700S User Manual	20D-UM001

The following table lists related Reliance Electric products and documentation:

Table Preface.B
Related Documentation

Catalog number:	Document title:	Pub. number:
Multiple numbers	Distributed Power System Overview	S-3005
SD3000, SF3000	Distributed Power System SD3000/SF3000 Power Module Interface Rack and Modules	S-3008
SD3000	Distributed Power System SD3000 Drive Diagnostics, Troubleshooting, and Start-Up Guidelines	S-3011
SD3000, SF3000	Distributed Power System SD3000/SF3000 3-Phase DC Power Models	S-3037
SD3000	Distributed Power System High Horsepower D-C Power Bridge 1000 HP Power Modules	S-3039
SF3000	Distributed Power System SF3000 Panel-Mounted Single-Phase Field Power Modules	S-3060
SD3000, SF3000	Distributed Power System SD3000/SF3000 Parallel Gate Amplifier System	S-3045

If you need more information on these products, contact your local Allen-Bradley integrator or sales office for assistance. Information and manuals are also available online at **http://www.ab.com/manuals/** and **http://www.theautomationbookstore.com/**.

Notes:

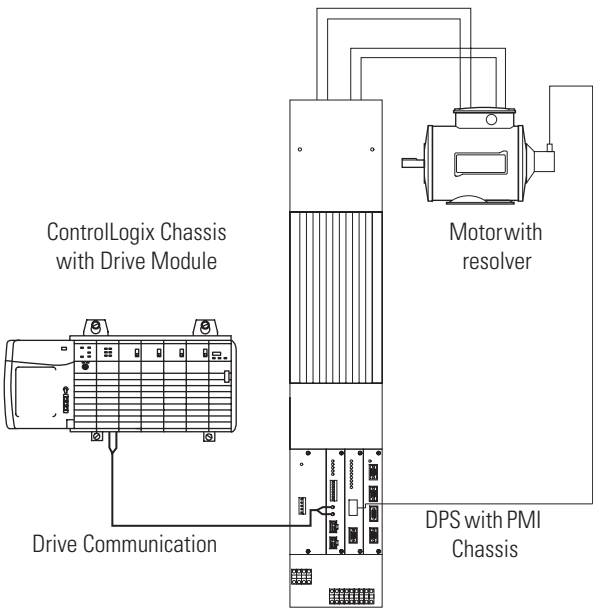
What is the ControlLogix Drive Module?

This chapter describes the ControlLogix Drive module. It also describes what you must know and do before using the Drive module.

What is the ControlLogix Drive Module?

The 1756-DM Drive Module is a single slot ControlLogix based module for interface to Reliance Electric Distributed Power System (DPS) drive equipment. Each drive module interfaces with an individual Power Module Interface (PMI) chassis, performing velocity and position and outer torque control.

Figure 1.1 SD3000 System Example



There are two types of Drive module, each works with a different type of DPS drive equipment.

Table 1.A

Drive Module	DPS Equipment	Description
1756-DMD30	SD3000 6 Pulse	DC Drive S6 and S6R
	SD3000 12 Pulse	DC Drive S12 and S12R
1756-DMF30	SF3000	Three Phase Field Supply

What Are Some of the Features Available On the ControlLogix Drive Module?

The following are some of the features available on the ControlLogix Drive module:

- The 1756-DMD30 utilizes velocity and position and outer torque control similar to the PowerFlex 700S
- Motor Control capability mimics the respective Reliance Electric Distributed Power drive
- PC Tools, such as RSLogix 5000™ and DriveExecutive™ in the DriveTools 2000™ program suite, used for programming, configuring, monitoring and troubleshooting
- Fiber optic connection to the Power Module Interface
- SynchLink™ for advanced high performance synchronization and data transfer.
- Removal and insertion under power (RIUP) - This system feature allows you to remove and insert the module while power is applied. For more information on RIUP, see page 1-7.
- Class I Division 2, UL, CSA, and CE Agency Certification

Connecting the Drive Module to SynchLink and Drive Comm

SynchLink

The ControlLogix Drive module mounts in a ControlLogix chassis and connects to other SynchLink nodes through a fiber optic cable system.

Table 1.B
Fiber Optic Cables for SynchLink

Catalog Number:	Cable Length	Cables per box:
1403-CF001	1 meter	2
1403-CF003	3 meters	2
1403-CF005	5 meters	2
1403-CF010	10 meters	1
1403-CF020	20 meters	1
1403-CF050	50 meters	1
1403-CF100	100 meters	1
1403-CF250	250 meters	1

Drive Comm (Drive Communication)

The ControlLogix Drive module connects to a PMI chassis through special Drive Communication fiber optic cables.

Table 1.C
Fiber Optic Cables for Drive Communication

Catalog Number	Length
1756-DMCF001	1 meter
1756-DMCF003	3 meters
1756-DMCF010	10 meters
1756-DMCF030	30 meters
1756-DMAF (1)	N/A

(1) Use the 1756-DMAF to connect existing UDC/PMI fiber optic cables to the Drive Module

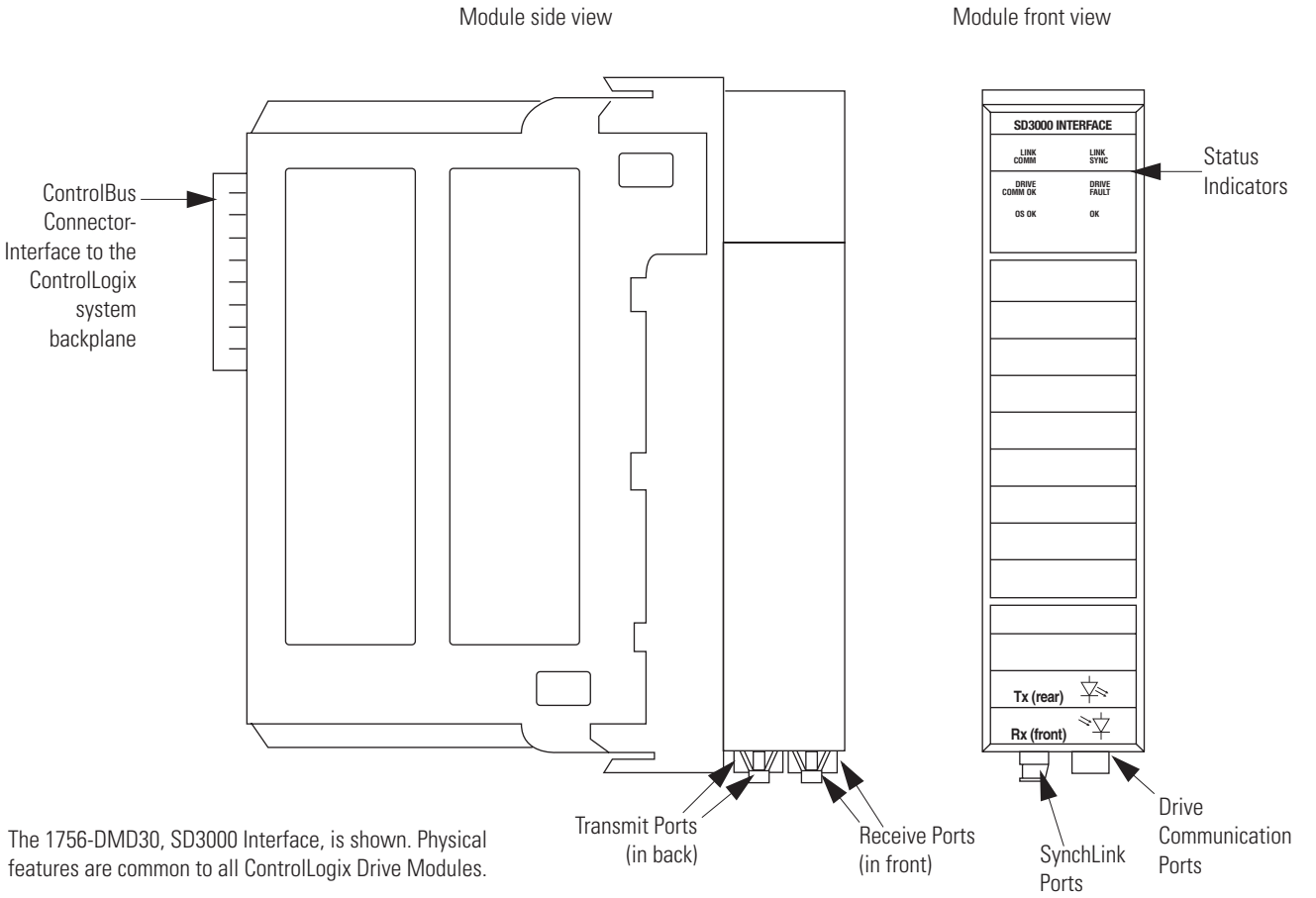
Before you install and use your module you should have already:

- installed and grounded a 1756 chassis and power supply. For more information, refer to the publications listed in Table 1.D.

Table 1.D
Chassis and Power Supply Documentation

Catalog number:	Document title:	Pub. number:
1756-A4, -A7, -A10, -A13	ControlLogix Chassis Installation Instructions	1756-IN080
1756-PA72, -PB72	ControlLogix Power Supply Installation Instructions	1756-5.67
1756-PA75, -PB75	ControlLogix Power Supply Installation Instructions	1756-5.78
1756-PA75R/A, -PB75R/A	ControlLogix Redundant Power Supply Installation Instructions	1756-IN573

Physical Features of the ControlLogix Drive Module



The 1756-DMD30, SD3000 Interface, is shown. Physical features are common to all ControlLogix Drive Modules.

Backplane Connector - The backplane connector connects the module to the ControlLogix chassis backplane.

Status Indicators - The status indicators display the module's communications, Drive Communication and SynchLink system status.

SynchLink Transmit Fiber Port - The transmit fiber port allows connection (via fiber optic cables) to other SynchLink modules so the module can send data.

SynchLink Receive Fiber Port - The receive fiber port allows connection (via fiber optic cables) to other SynchLink modules so the module can receive data.

Drive Communication Transmit Fiber Port - The transmit fiber port allows connection (via fiber optic cables) to the PMI processor of the drive.

Drive Communication Receive Fiber Port - The receive fiber port allows connection (via fiber optic cables) to the PMI processor of the drive.

Using Module Identification and Status Information

Each ControlLogix Drive module maintains specific identification information that separates it from all other modules. This information assists you in tracking all the components of your system.

For example, you can track module identification information to be aware of exactly what modules are located in any ControlLogix rack at any time. While retrieving module identity, you can also retrieve the module's status.

Each module maintains the following information:

Table 1.E
Module Identification and Status Information

Module Identification:	Description:
Product Type	Module's product type, such as Digital I/O or Analog I/O module
Catalog Code	Module's catalog number
Major Revision	Module's major firmware revision number
Minor Revision	Module's minor firmware revision number

Table 1.E
Module Identification and Status Information

Module Identification:	Description:
Status	Module's status. Returns the following information: • Controller ownership (if any) • Whether module has been configured • Device Specific Status, such as: – Self-Test – Flash update in progress – Communications fault – Not owned (outputs in program mode) – Internal fault (need flash update) – Run mode • Minor recoverable fault • Minor unrecoverable fault • Major recoverable fault • Major unrecoverable fault
Vendor ID	Module manufacturer vendor, for example Allen-Bradley
Serial Number	Module serial number
Length of ASCII Text String	Number of characters in module's text string
ASCII Text String	Module name

IMPORTANT To retrieve this information, you can use the WHO service in the RSLinx software. For more information on how to retrieve module identification information, see the RSLinx online help.

Preventing Electrostatic Discharge

This module is sensitive to electrostatic discharge.

ATTENTION

Preventing Electrostatic Discharge

This equipment is sensitive to electrostatic discharge, which can cause internal damage and affect normal operation. Follow these guidelines when you handle this equipment:

- Touch a grounded object to discharge potential static.
- Wear an approved grounding wrist strap.
- Do not touch connectors or pins on component boards.
- Do not touch circuit components inside the equipment.
- If available, use a static-safe workstation.
- When not in use, store the equipment in appropriate static-safe packaging.

Removal and Insertion Under Power

These modules are designed to be installed or removed while chassis power is applied, while in non-hazardous locations only.

WARNING

When you insert or remove the module while backplane power is on, an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

ATTENTION

The removal of a Drive Module while under power may cause personal injury or property damage. Make sure that removal of the module does not adversely impact other parts of the system.

IMPORTANT

Repeated electrical arcing causes excessive wear to contacts on both the module and its mating connector. Worn contacts may create electrical resistance that can affect module operation.

Chapter Summary and What's Next

In this chapter, you learned about the ControlLogix Drive module. Move to Chapter 2, Drive Comm (Drive Communication) for details on the communications interface to DPS equipment.

Drive Comm (Drive Communication)

This chapter describes Drive Comm (Drive Communication), the interface between the ControlLogix Drive module communicates and Distributed Power System (DPS).

Interface to DPS Drive Equipment

The main function of the Drive module is to interface to Distributed Power System (DPS) drive equipment, enabling a ControlLogix processor to control the drive equipment. A ControlLogix processor performs high level control algorithms and drive coordination. The Drive module performs outer control loop processing(1), and the Power Module Interface (PMI) performs real-time control of the Power Module.

Each drive module interfaces with an individual Power Module Interface (PMI) processor. It resides in a ControlLogix chassis and connects to a PMI processor via fiber-optic and Drive Communication protocol.

Drive Communication Protocol

Drive Communication is a point to point serial link between the Drive module and the Power Module Interface (PMI), on fiber-optic cable. It is similar to the protocol used between the Universal Drive Controller (UDC) and the PMI processor in an AutoMax DPS environment. The data is Manchester-encoded and transmitted over the fiber-optic links at a rate of 10M bits per second. Transfers on fiber-optic cables are immune to electromagnetic interference (EMI).

During initialization, the Drive Module and PMI processor use an asynchronous master-slave protocol to transfer the PMI operating system to the PMI processor and to establish synchronized communication. After initialization, they use synchronized "Set

(1) The 1756-DMF30 does not perform outer control loop processing - it only functions as a bridge between the ControlLogix controller and the PMI processor.

Point/Feedback Data Exchange" to transfer data. The Drive Module sends set point data to the PMI processor, which returns feedback data to the Drive Module.

Initialization

At boot time, the Drive Module and PMI processor use an asynchronous master-slave protocol to transfer the PMI operating system and establish synchronized communication. The PMI processor is the master, and commences by requesting its operating system. The Drive Module responds by downloading the operating system in a special message, containing up to 256 byte packets.

When the operating system transfer is complete, the Drive Module sends a configuration message and a gain message. The configuration message contains information that fixes the communication frequency at 4 mS. Once the Drive Module and PMI processor have synchronized communications, normal Set Point/Feedback data transfer can begin.

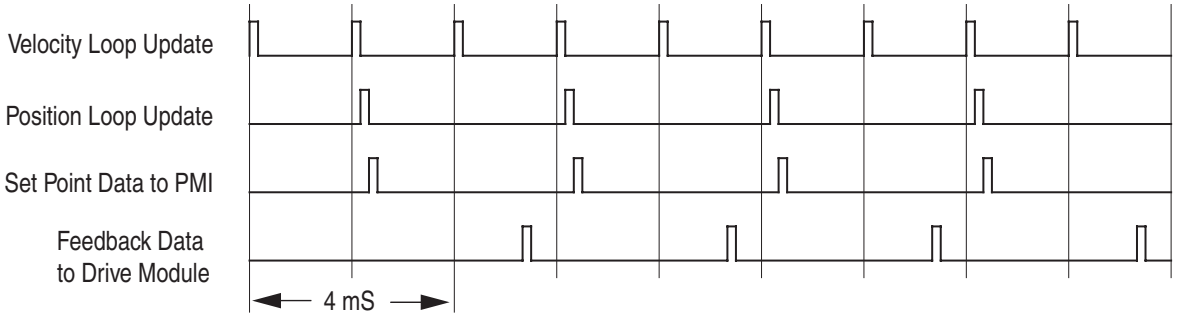
Synchronized Communication

The synchronized protocol is called "Set Point/Feedback Data Exchange". The drive module sends set point data to the PMI processor. The set point data contains reference data, for drive control, and a time stamp. This time stamp enables the PMI processor to calculate what the proper time is for the next feedback message. The PMI processor sends feedback messages to the Drive Module. The feedback messages contains data about drive operation.

Timing

The velocity loop updates (reads from, and writes to Drive Communication) every 2 mS. After every other velocity loop update (at a 4 mS interval), the position loop performs its update. After every position update, the Drive Module sends set point data to the PMI processor. After the next velocity update (but before the following one), the PMI processor sends feedback data to the Drive Module. Refer to the following timing chart.

Figure 2.1 Drive Communication Timing



Synchronization with CST

Synchronization to Coordinated System Time (CST) is not necessary to synchronize Drive Communication between the Drive Module and the PMI processor. However, if the Drive Module is synchronized to the CST, Drive Communication will also synchronize to the CST.

Chapter Summary and What's Next

In this chapter, you learned about Drive Communication. For more information on Drive Module features see Chapter 3, Drive Module Features.

Notes:

Drive Module Features

This chapter describes the ControlLogix Drive module features.

General module features are features (e.g. Removal and Insertion Under Power) that are supported on the module regardless of configuration and application.

Configurable module features are features (e.g. Communications Format) that can be configured to work differently in various applications.

General Module Features

The following general module features are available with the ControlLogix Drive module:

- Removal and Insertion Under Power (RIUP)
- Module Fault Reporting
- Fully Software Configurable
- LED Status Information
- Class I Division 2 Certification
- Agency Certification

Removal and Insertion Under Power (RIUP)

All ControlLogix Drive modules may be removed and inserted from the chassis while power is applied. This feature allows greater availability of the overall control system because, while the module is being removed or inserted, there is no additional disruption to the rest of the controlled process.

WARNING

When you insert or remove the module while backplane power is on, an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

ATTENTION

The removal of a Drive Module while under power may cause personal injury or property damage. Make sure that removal of the module does not adversely impact other parts of the system.

IMPORTANT

Repeated electrical arcing causes excessive wear to contacts on both the module and its mating connector. Worn contacts may create electrical resistance that can affect module operation.

Module Fault Reporting

ControlLogix Drive modules provide both hardware and software indication when a module fault has occurred. Each module's LED fault indicator as well as DriveExecutive and RSLogix 5000 will graphically display this fault and include a fault message describing the nature of the fault.

This feature allows you to determine how your module has been affected and what action should be taken to resume normal operation.

Fully Software Configurable

RSLogix 5000 and DriveExecutive software packages use custom, easily understood interfaces to determine the module configuration. All module features are enabled or disabled through the configuration portions of the software.

You can also use the software to interrogate any module in the system to retrieve

- serial number
- revision information
- catalog number
- vendor identification
- error/fault information

By eliminating such tasks as setting hardware switches and jumpers, the software makes module configuration easier.

LED Status Information

The ControlLogix Drive module has LED indicators on the front of the module that allow you to check the module health and operational status.

The following status can be checked with the LED indicators:

- SynchLink and ControlLogix backplane status
- Drive Comm status
- Drive status
- Module health status

For examples of LED indicators, see page 6-1.

Class I Division 2 Certification

The ControlLogix Drive module is certified for use in nonhazardous locations as well as Class I, Division 2 hazardous Locations containing gas groups A, B, C, and D. This equipment may be used as a component of a control system which is certified to operate in hazardous locations.

WARNING

When you insert or remove the module while backplane power is on, an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

ATTENTION

The removal of a Drive Module while under power may cause personal injury or property damage. Make sure that removal of the module does not adversely impact other parts of the system.

Agency Certification

When the Drive module is marked appropriately, the following agency certifications apply:

- UL Listed Industrial Control Equipment
- CSA Certified Process Control Equipment
- CSA Certified for Class I, Division 2 Hazardous Locations

Configurable Module Features

The following Drive module features are configurable via RSLogix 5000 and DriveExecutive:

- Controller Communication Format
- SynchLink Controller Communication Format
- Electronic Keying
- Requested Packet Interval
- Transmitted Direct Words
- SynchLink Mastership

Each of these features is described in this section, including information on which RSLogix 5000 and DriveExecutive configuration screens should be used to configure the feature. For an overview of the entire configuration process, see Chapter 5, Configuring the Drive Module.

Controller Communication Format

The controller communications format defines the connection between the owner-controller and the module (i.e. determines what type of data is transferred between them). The 1756-DMD30 module supports Velocity Control, Position Control, User-Defined and Custom User-Defined communication formats. The 1756-DMF30 supports the User-Defined communication format.

SynchLink Communications Format

The SynchLink communications format defines the connection at the SynchLink Receive Port and the SynchLink Transmit Port. It determines the type and number of data type in each connection.

SynchLink messages are structured as six 32-bit words; the words are divided into three types:

- Direct - Data delivered in a single message. A SynchLink message can contain a maximum of four direct data words; each word is 32 bits in length. Direct data can be automatically forwarded to the next node in the daisy chain and ring configurations.

- Buffered - Data that exceeds the four word limit of a direct data transfer. A maximum of 18 buffered are transfered every 500µS. Buffered data is appropriately segmented at the transmitting module and reassembled at the receiving module. Buffered data cannot be automatically forwarded to the next node in the daisy chain and ring configurations.

- Axis - the Drive module does not support this data type.

Multiple Port Communications Formats in Single Module

You must set a communications format for receiving data (Receive Port Communications Format) and transmitting data (Transmit Port Communications Format) in each SynchLink node.

The following requirements apply to communication format choices:

- If a Drive module does not receive data (e.g. the first node in a daisy chain topology), you must choose the *No Receive Data* Receive Port communication format.
- If a Drive module does not transmit data (e.g. an end node), you must choose the *No Transmit Data* Transmit Port communications format.
- The receive communication format for any Drive module that receives data must match the transmit communications format of the upstream node in the system.

IMPORTANT The receive and transmit on the same module do not have to match.

Also, once the module is created, the communications format cannot be changed. The module must be deleted and recreated.

Internal Scan on Drive Module

Every 500µS, the Drive module scans its internal hardware and captures a "snapshot" of the data there. This data is then sent to the local owner-controller at the Change of State (COS) instance, independent of the requested packet interval (RPI) rate. But, depending on the communications formats chosen during module configuration, data types are transmitted between SynchLink nodes (via the fiber optic cable) at various rates and may be transmitted multiple times between the 500µS snapshots.

IMPORTANT The transfer rate times listed in Table 3.A and Table 3.B only represent the rate at which data is passed between SynchLink modules over the fiber optic cable.

Although the data is passed over the fiber optic cable at various rates, depending on the communications format choices, the **owner-controllers** in each local chassis only **receive the data** after the local SynchLink module's internal scan **every 500µS**.

The Drive module updates its receive and transmit buffers once every 500µS. Because direct data can be passed through from node to node once every 50µS, up to 10 nodes can be updated with direct data in a single 500µS SynchLink scan. Pass-through functionality only applies

to direct data in a daisy chain configuration, In order to pass-through buffered data, the local controller must intervene to move data along.

Table 3.A
Drive Module Receive Communications Formats

Receive Port Communications Format	Transfer Rate (across the fiber optic cable) for Each Data Type:
2 Direct Words, 18 Buffered	Direct Data - Updated every 50µS Buffered Data - Updated every 250µS
4 Direct Words, 18 Buffered	Direct Data - Updated every 50µS Buffered Data - Updated every 500µS
4 Direct Words, 8 Buffered	Direct Data - Updated every 50µS Buffered Data - Updated every 250µS
No Receive Data	No data updated in this format

Table 3.B
Drive Module Transmit Communications Formats

Transmit Port Communications Format	Transfer Rate (across the fiber optic cable) for Each Data Type:
2 Direct Words, 18 Buffered	Direct Data - Updated every 50µS Buffered Data - Updated every 250µS
4 Direct Words, 18 Buffered	Direct Data - Updated every 50µS Buffered Data - Updated every 500µS
4 Direct Words, 8 Buffered	Direct Data - Updated every 50µS Buffered Data - Updated every 250µS
Listen Only, No Transmit Data	No data updated in this format
No Transmit Data	No data updated in this format

Module-Defined Data Tags

When you create a module, module-defined data types and tags are created in the RSLogix 5000 programming software. These tags allow you to access the Input and Output Data of the module via the controller's ladder logic, if necessary

The types of tags created vary, depending on which communications format you choose when creating a module. There are two types of tags:

- Input Data Tags
- Output Data Tags

Electronic Keying

Instead of plastic mechanical backplane keys, electronic keying allows the ControlLogix system to control what modules belong in the various slots of a configured system.

During module configuration, you must choose one of the following keying options for your SynchLink module:

- Exact Match
- Compatible Match
- Disable Keying

When the controller attempts to connect to and configure a Drive module (e.g. after program download), the module compares the following parameters before allowing the connection and configuration to be accepted:

- Vendor
- Product Type
- Catalog Number
- Major Revision
- Minor Revision

The comparison is made between the keying information present in the Drive module and the keying information in the controller's program. This feature can guard against the inadvertent operation of a control system with the wrong module in the wrong slot.

Exact Match

All of the parameters listed above must match or the inserted module will reject a connection to the controller.

Compatible Match

The Compatible Match mode allows a Drive module to determine whether it can emulate the module defined in the configuration sent from the controller.

With ControlLogix Drive modules, the module can emulate older revisions. The module will accept the configuration if the controller's major.minor revision is less than or equal to the physical module's revision.

For example, if the configuration contains a major.minor revision of 2.7, the module inserted into the slot must have minor revision of 2.7 or higher for a connection to be made.

TIP

We recommend using Compatible Match whenever possible. Remember, though, the module will only work to the level of the configuration.

For example, if a slot is configured for a module with major.minor revision of 2.7 and you insert a module with a major.minor revision of 3.1, the module works at the 2.7 level despite having been previously upgraded.

If possible, we suggest you make sure configuration is updated to match the revision levels of all Drive modules. Failure to do so may not prevent the application from working but may defeat the purpose of upgrading your modules' revision levels.

Disable Keying

The inserted module attempts to accept a connection to the controller regardless of its type.

ATTENTION

Be extremely cautious when using the disable keying option; if used incorrectly, this option can lead to personal injury or death, property damage or economic loss.

If keying is disabled, a controller makes a connection with most modules of the same type as that used in the slot configuration.

A controller will not establish a connection if any of the following conditions exist, even if keying is disabled:

- The slot is configured for one module type (e.g. digital input module) and a module of another type (e.g. Drive module) is inserted in the slot.
- The module inserted into the slot cannot accept some portion of the configuration. This case should not arise if the slot is configured for a Drive module and one is inserted.

Requested Packet Interval

The Requested Packet Interval (RPI) is a configurable parameter that defines when the module multicasts its data onto the local chassis backplane.

In addition to the RPI, Change of State (COS) functionality also causes the module to produce its data to the consuming controller whenever the values of the data changes. The RPI timer is asynchronous to the COS functionality. Both cause the module to produce data when triggered.

Buffered, Direct and Diagnostic Data - RPI Effect on Output Data (from the controller)

As a producing controller writes data to the Drive module, the output data is placed in a local buffer until the next RPI reset occurs. When the RPI timer expires, the output data is moved from the controller's local buffer to the Drive module.

The RPI timer is asynchronous to the program execution. Therefore, a worst case update to the Drive module can be calculated by adding the program execution time to the RPI timer setting, as configured by the user.

Chapter Summary and What's Next

In this chapter, you learned about the ControlLogix Drive module features. Move to Chapter 4, Installing the Drive Module, to learn how to install the module.

Installing the Drive Module

This chapter describes how to install the ControlLogix Drive module.

Noting the Power Requirements

This module receives power from the 1756 chassis power supply and requires 2 sources of power from the backplane:

- 1.35A at 5.1V dc
- 3.0mA at 24V dc

Account for this power consumption (6.96W) in addition to the requirements of all other modules in the chassis to prevent overloading the power supply.

Installing the Module

You can install or remove the module while chassis power is applied.

WARNING

When you insert or remove the module while backplane power is on, an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

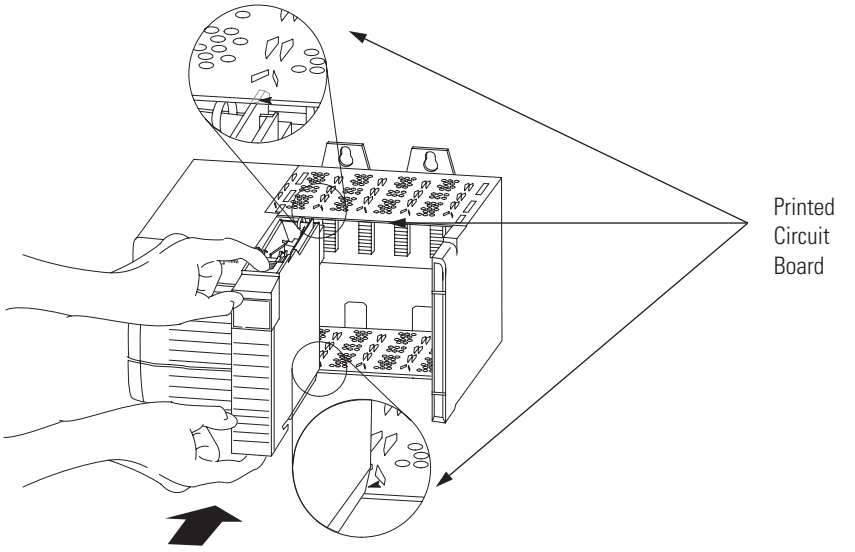
ATTENTION

The removal of a Drive Module while under power may cause personal injury or property damage. Make sure that removal of the module does not adversely impact other parts of the system.

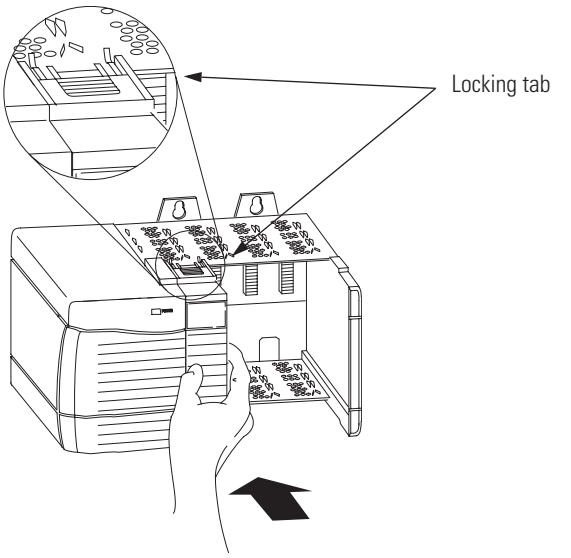
IMPORTANT

Repeated electrical arcing causes excessive wear to contacts on both the module and its mating connector. Worn contacts may create electrical resistance that can affect module operation.

1. Align the circuit board with the top and bottom chassis guides.



2. Slide the module into the chassis until the module locking tabs 'click'.



Connecting SynchLink Cables

The two fiber optic ports on the bottom-left of the module are for SynchLink. The front-left port is receives SynchLink data, and the rear-left port is transmits SynchLink data.

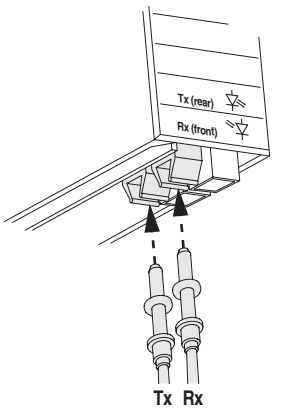
ATTENTION

The Drive module is a Class I LED product. Light levels may cause damage to eyesight. Do not look directly into the fiber ports or fiber cables.

TIP

Keep the plugs that were removed to connect the fiber optic cables. When the cables are disconnected, you can reinsert the plugs into the ports to protect them.

Figure 4.1 SynchLink Connections



Refer to See Table 1.B on page 1-3 for information on available pre-configured fiber optic SynchLink cables.

Table 4.A lists the possible connections that might be made to your 1756-DM module and where to connect the fiber optic cable.

Table 4.A
Making Fiber Optic Cable Connections to the 1756-DM Module

If your 1756-DM module is configured to:	Make this fiber optic cable connection:
transmit data only	Connect the fiber optic cable to the rear port. The other end of the cable should be connected to a device receiving data over the SynchLink from your 1756-DM module.
receive data only	Connect the fiber optic cable to the front port. The other end of the cable should be connected to a device transmitting data to your 1756-DM module over the SynchLink.
transmit and receive data	1. Connect the fiber optic cable going to (i.e. transmitting the data to) a module receiving the data to the front port. 2. Connect the fiber optic cable coming from (i.e. receiving the data from) a module transmitting data to the rear port.

Connecting (Drive Comm Drive Communication) Cables

The two fiber optic ports on the bottom-right of the module are for Drive Comm. The front-right port receives data from the PMI processor on the drive. The rear-right port transmits data to the PMI processor.

- Connect the 1756-DM transmit port (Tx) to the PMI receive port (RCV).
- Connect the 1756-DM receive port (Rx) to the PMI transmit port (XMT). .

ATTENTION

The Drive module is a Class I LED product. Light levels may cause damage to eyesight. Do not look directly into the fiber ports or fiber cables.

TIP

Keep the plugs that were removed to connect the fiber optic cables. When the cables are disconnected, you can reinsert the plugs into the ports to protect them.

Figure 4.2 Drive Comm - Drive Module End Connections

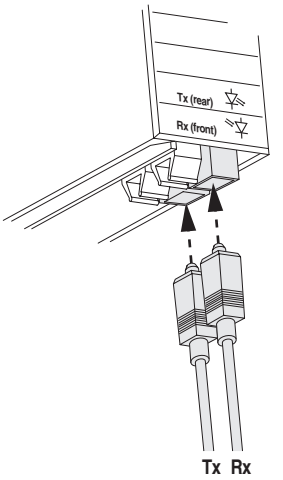
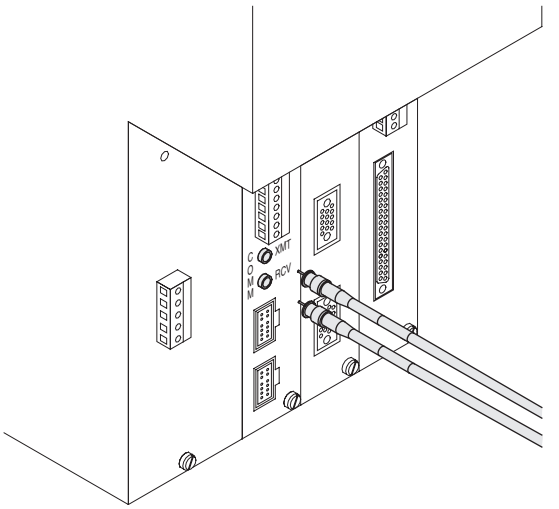


Figure 4.3 Drive Comm - PMI Processor Connections



Refer to See Table 1.C on page 1-3 for information on available pre-configured fiber optic Drive Comm cables.

Removing the Module

ATTENTION

Before you remove the module, you must disconnect the fiber optic cables.

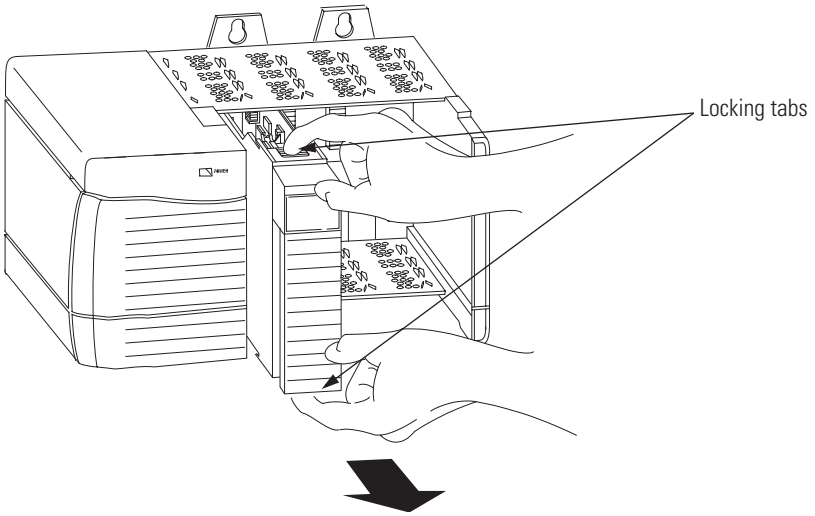
1. Push in the top and bottom locking tabs.

TIP

If you kept the plugs that were removed to connect the fiber optic cables, reinsert them to protect the ports.

2. Pull the module out of the chassis as shown.

Figure 4.4



Chapter Summary and What's Next

In this chapter, you learned how to install the ControlLogix Drive module. Move to Chapter 5, Configuring the Drive Module, to learn how to configure the module.

Notes:

Configuring the Drive Module

This chapter describes how to configure the ControlLogix Drive Module using RSLogix 5000 and DriveExecutive in the DriveTools 2000 programming suite.

Overview of the Configuration Process

To configure your ControlLogix Drive Module, you must perform the following steps:

1. Plan the system.
   - Choose Controller Communication format
   - Choose SynchLink communications format (if you are using SynchLink)
   - Choose SynchLink topology (if you are using SynchLink)
2. Make sure DriveExecutive has database for the firmware revision and configuration of the module.
3. Configure each Drive Module with RSLogix 5000.
4. Configure each Drive Module with DriveExecutive, and download parameters and links to Drive module.
5. Return to RSLogix 5000, and download program to ControlLogix processor.

Planning the System

Before programming, you must choose a Controller - Drive Module interface (Controller Communication Format) for each Drive Module in the system.

If you are going to use SynchLink, you must choose the SynchLink data format, and a SynchLink network topology. This chapter covers these topics.

Understanding the Controller - Drive Module Interface

You must configure communications between the ControlLogix controller and the Drive Module by selecting a "Controller Communication Format". A controller communication format is a set of links that connects controller output tags to Drive Module sinking parameters, and connects controller input tags to Drive Module sourcing parameters. There are four controller communication formats to choose from, depending on which module you are configuring:

- Velocity Control
- Position Control
- User-Defined Control
- Custom User-Defined Control

Each controller communication format contains both required connections and user definable connections. You must use both RSLogix 5000 and DriveExecutive to configure these connections. The programming software will not allow you to choose Velocity Control or Position control for the 1756-DMF30.

IMPORTANT Once the module is created, the communications format cannot be changed. The module must be deleted and recreated.

Choosing the SynchLink Communication Formats

You must set a communications format for receiving data (Receive Port Communications Formats) and transmitting data (Transmit Port Communications Formats) in each module.

The following requirements apply to communication format choices:

- If a Drive module does not receive data (e.g. the first module in a non-loop topology), you must choose the *No Receive Data* Receive Port communication format.

- If a Drive module does not transmit data (e.g. an end node in the daisy chain configuration or star), you must choose the *No Transmit Data* Transmit Port communications format.

- The receive communication format for any SynchLink node that receives data must match the transmit communications format of the previous node in the system.

Receive Port Communications Formats

The following communications formats are available for the receive port of your Drive module:

- 2 Direct Words, 18 Buffered - Data updated every 500µS
- 4 Direct Words, 18 Buffered - Data updated every 500µS
- 4 Direct Words, 8 Buffered - Data updated every 500µS
- No Receive Data - Data updated every 500µS

Transmit Port Communications Formats

The following communications formats are available for the transmit port of your Drive module:

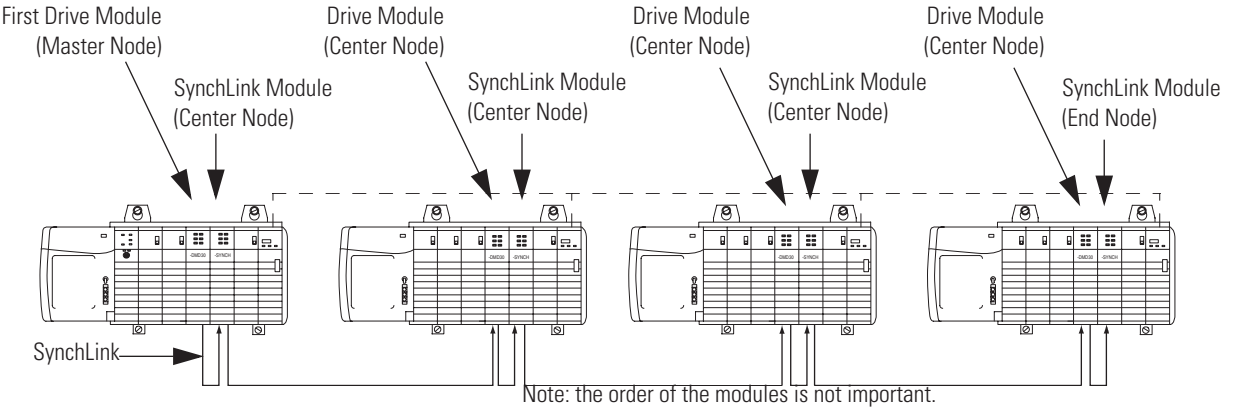
- 2 Direct Words, 18 Buffered - Data updated every 500µS
- 4 Direct Words, 18 Buffered - Data updated every 500µS
- 4 Direct Words, 8 Buffered - Data updated every 500µS
- No Transmit Data - Data updated every 500µS

IMPORTANT The update times referenced above are for data updates across the SynchLink fiber optic cable only and do not represent full processing time. Refer to 3-5 for more information regarding data updates and processing times.

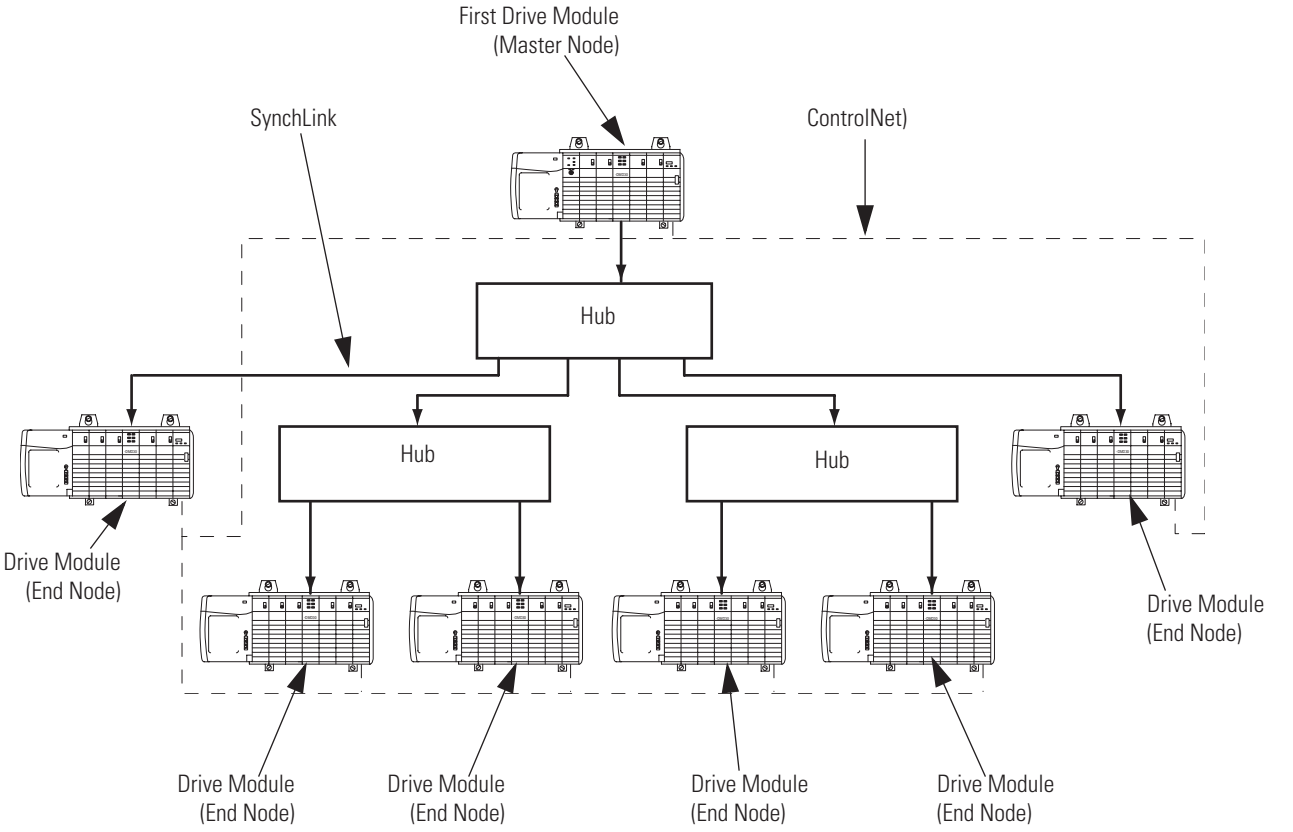
Choosing the SynchLink Network Topology

You can use one of the following SynchLink topologies:

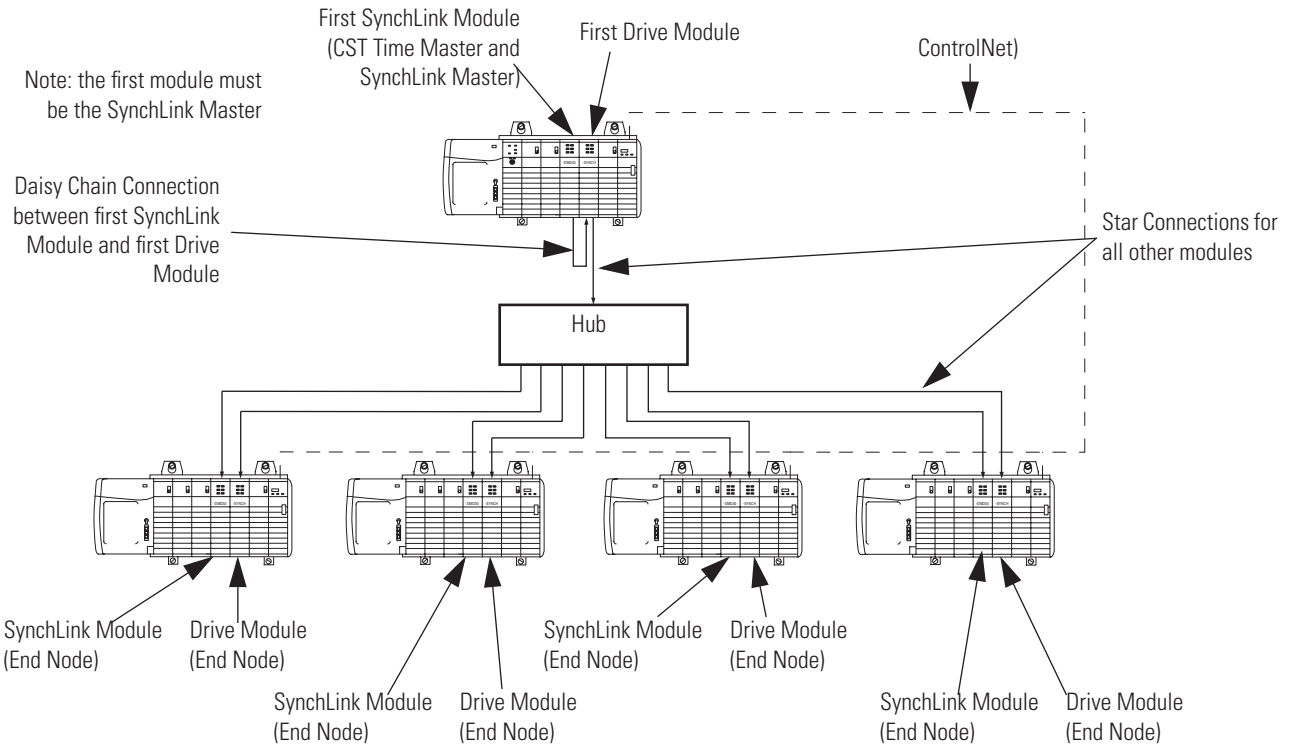
- Daisy Chain



- Star (asynchronous)



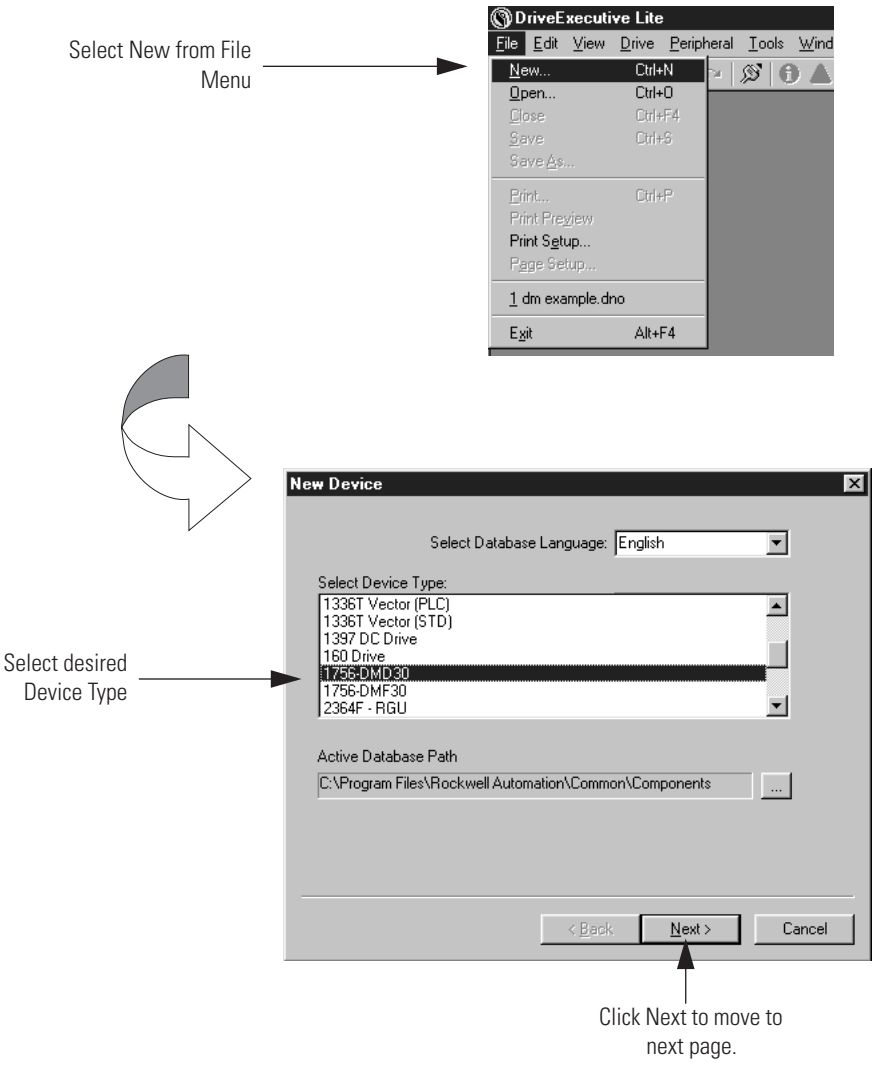
• Hybrid (synchronous)



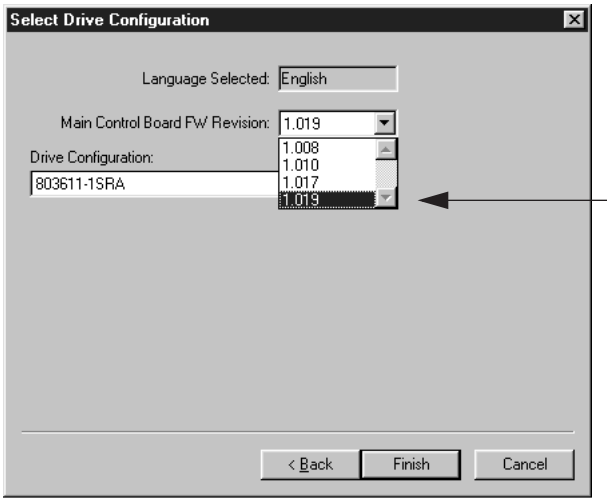
Checking and Updating the DriveExecutive Database

Checking the DriveExecutive Database

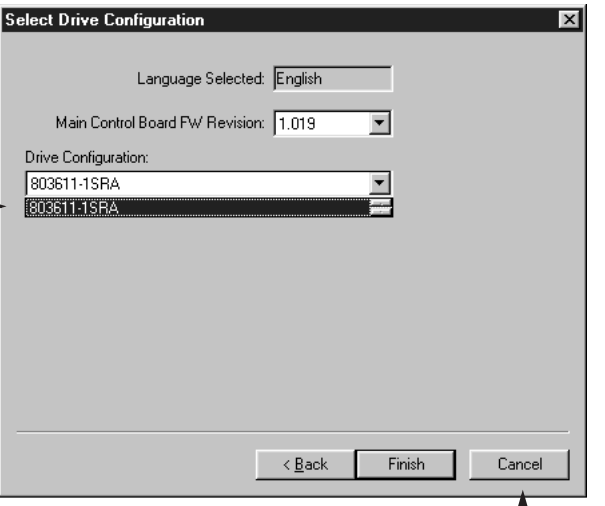
DriveExecutive must have a database for the Drive module firmware revision and power module configuration, in order to configure the module's parameters and links. In addition, the database is required for RSLogix and DriveExecutive to synchronize. Check the availability of the database by attempting to create a new module with the desired firmware revision level and power module configuration.



Checking the DriveExecutive Database (continued)



Check to see if desired Firmware Revision is available



Check to see if desired power module configuration is available

(The configuration number is the same as the power module's part number)

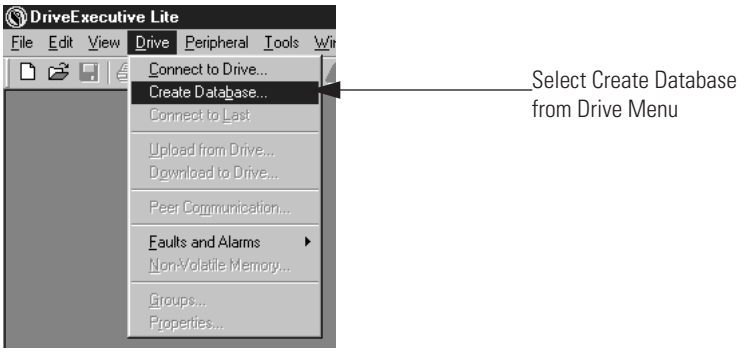
Click Cancel to end test

Updating the DriveExecutive Database

There are two ways to obtain the desired database if your computer does not contain it.

- Connecting to the module and creating the database in DriveExecutive
- Downloading the database from the DriveTools 2000 software website (http://www.ab.com/drives/drivetools_2000)

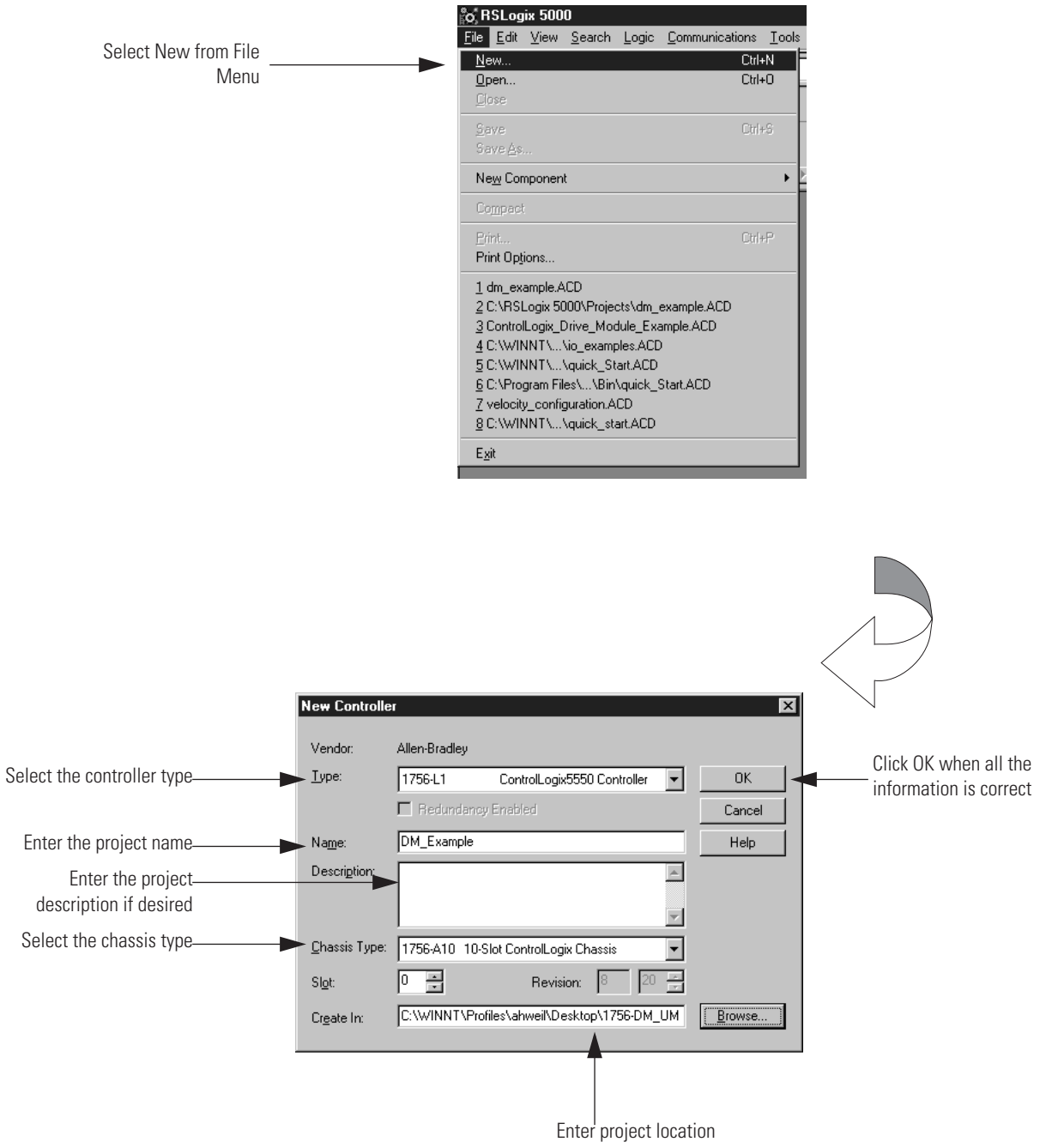
If you have access to a Drive module with the desired firmware revision, DriveExecutive can read the database from the module.



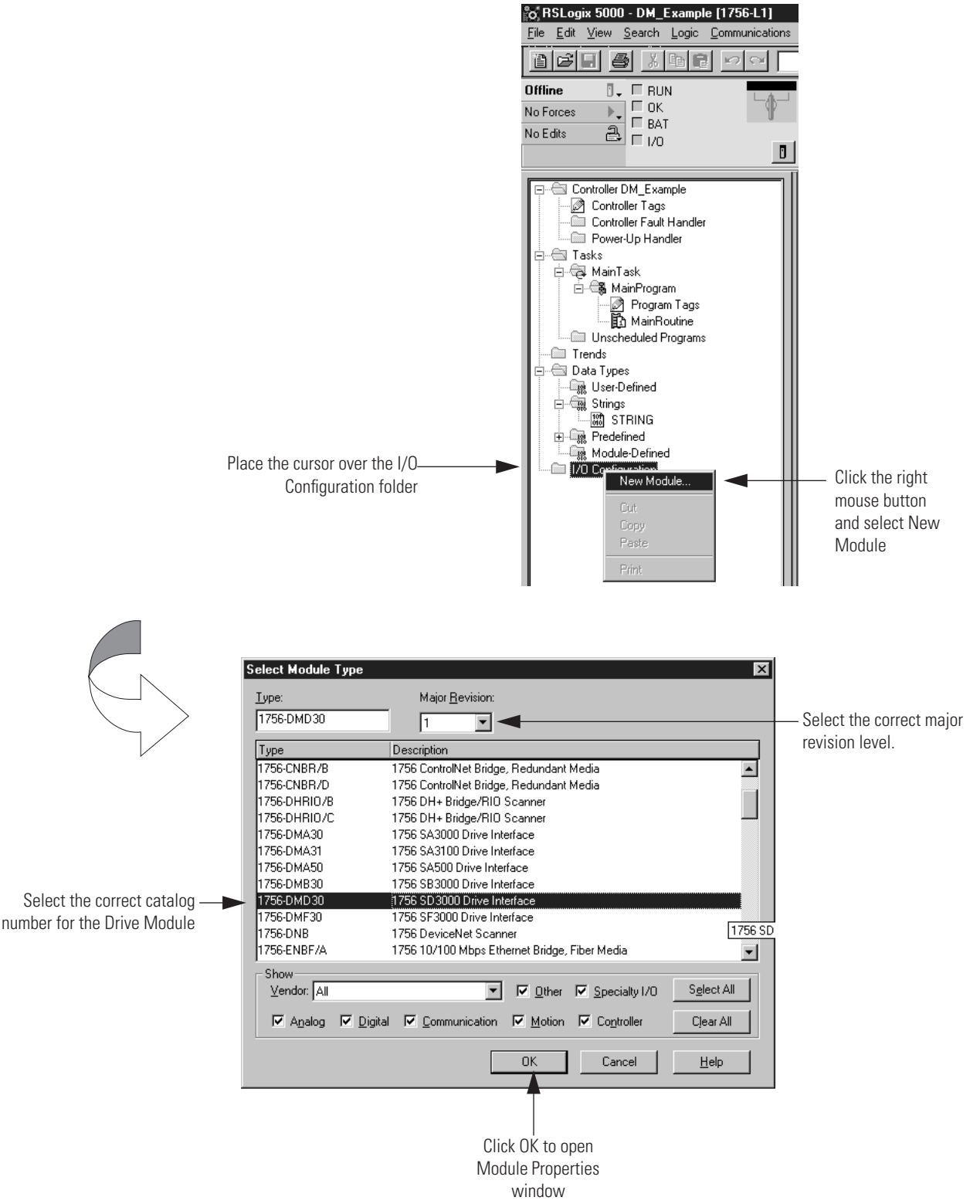
From here, DriveExecutive and RSLinx will guide you to connect the Drive module and create the database.

Using RSLogix 5000 to Configure the Drive Module

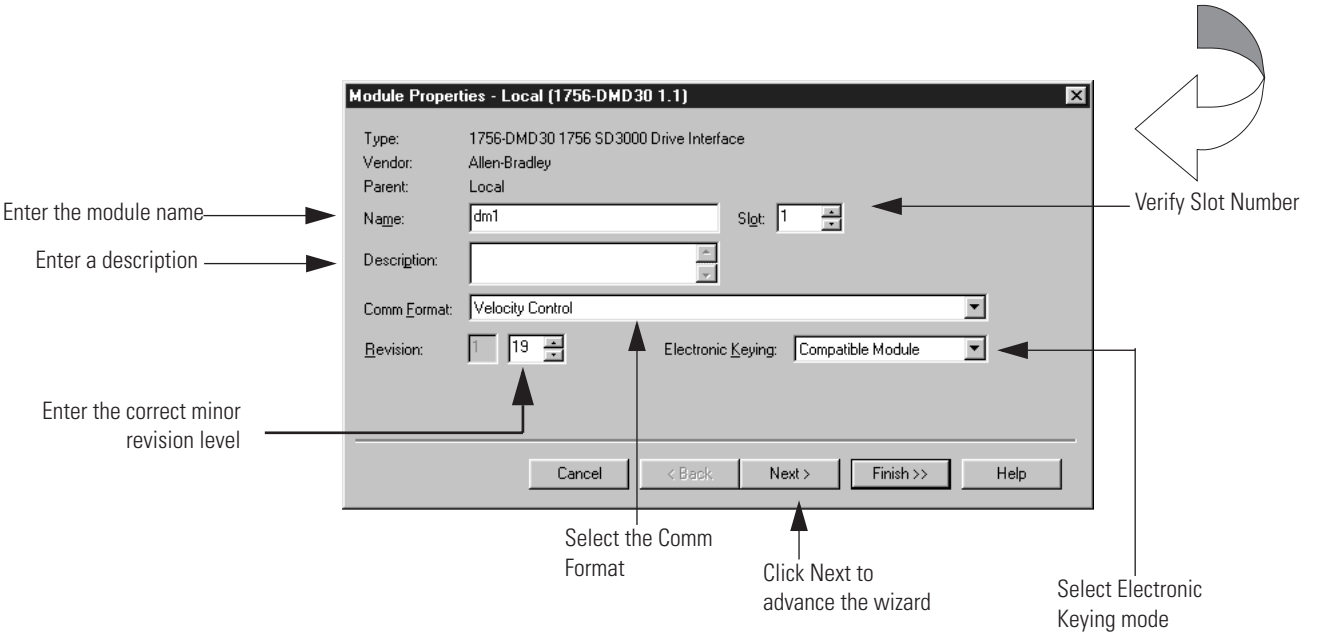
Create a new RSLogix 5000 Project



Add a Drive Module to the Project

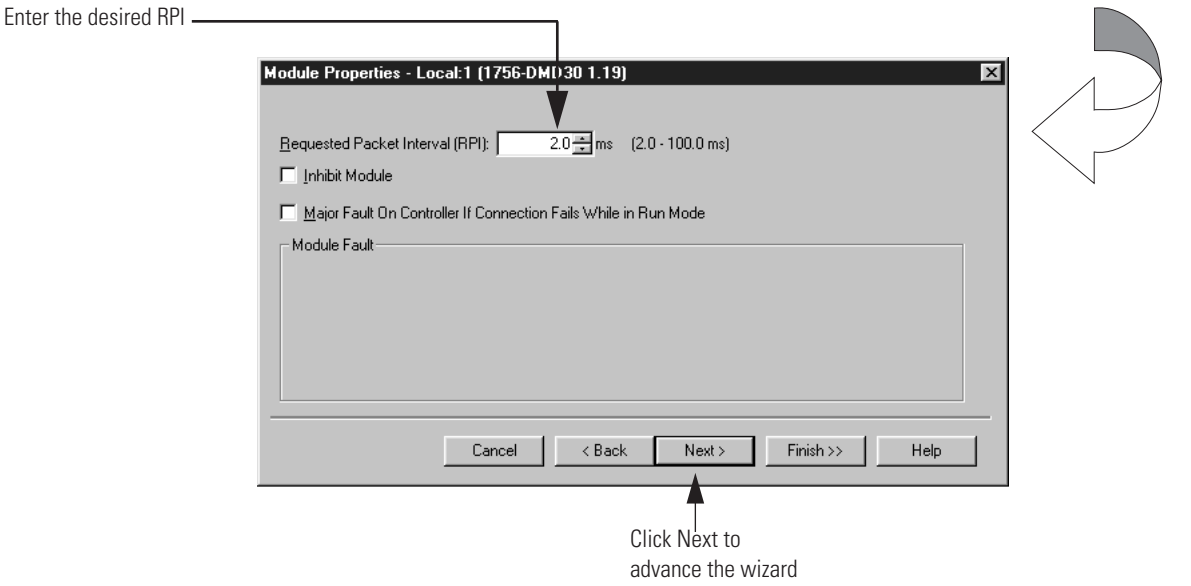


Add a Drive Module to the Project (continued)

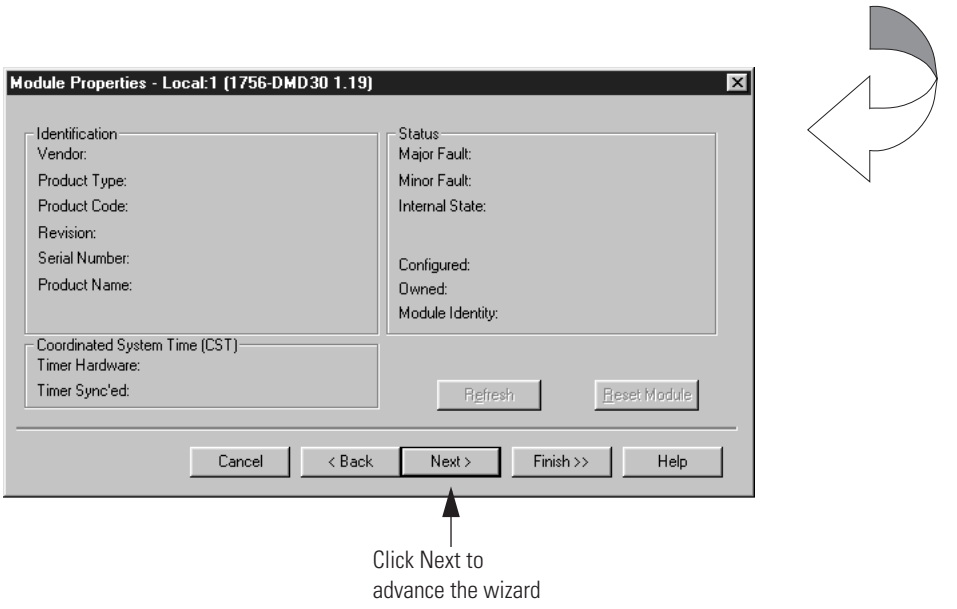


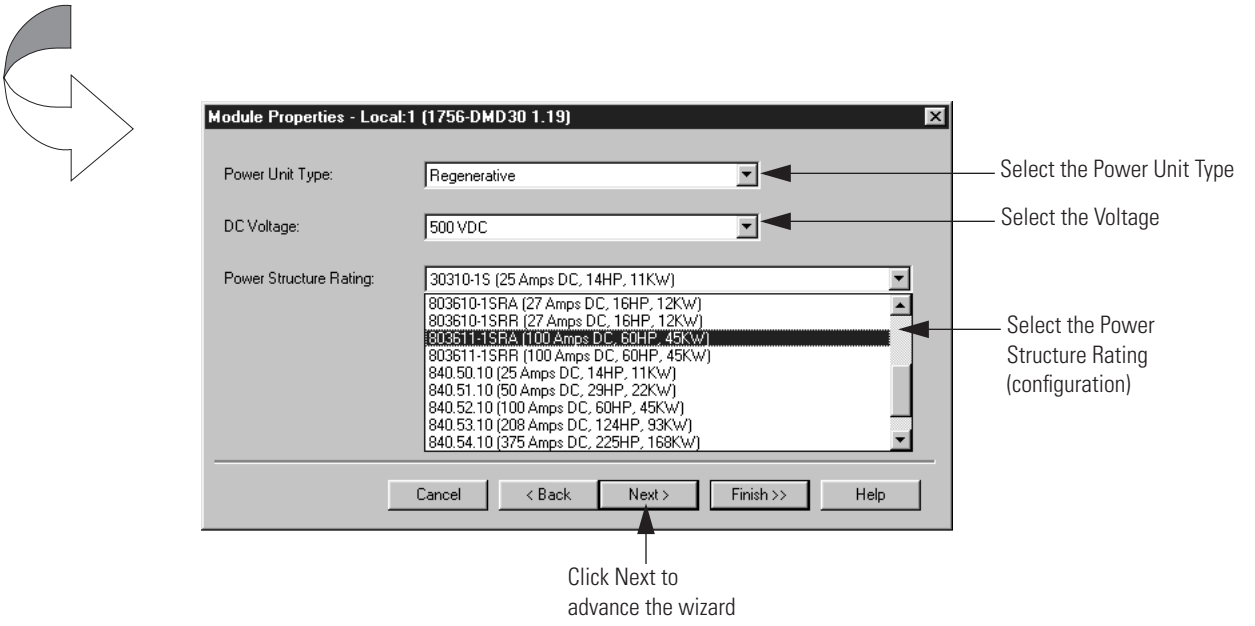
ATTENTION

Be extremely cautious when using the disable keying option; if used incorrectly, this option can lead to personal injury or death, property damage or economic loss.

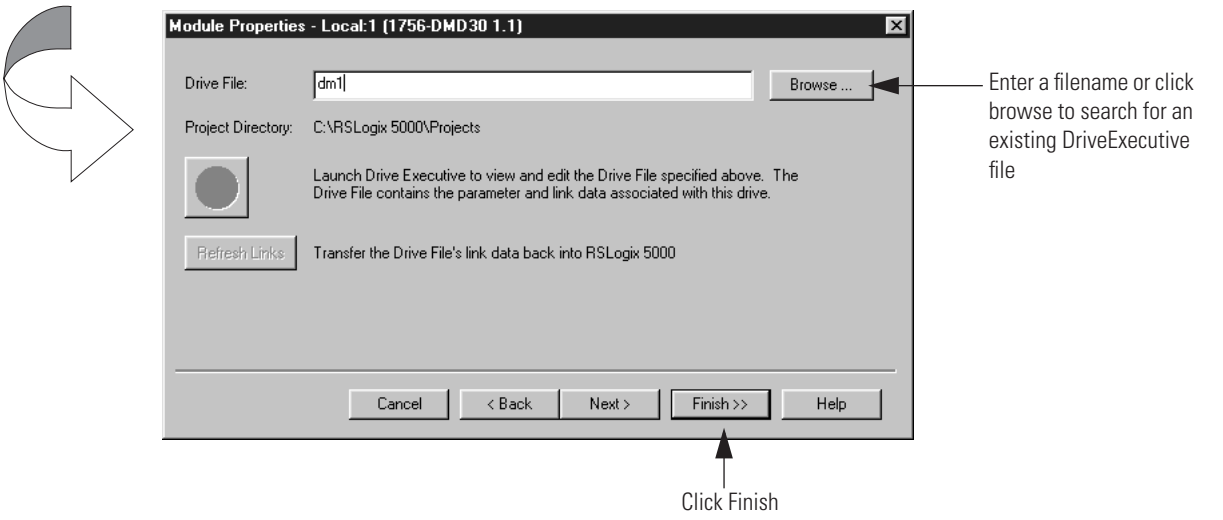


Add a Drive Module to the Project (continued)

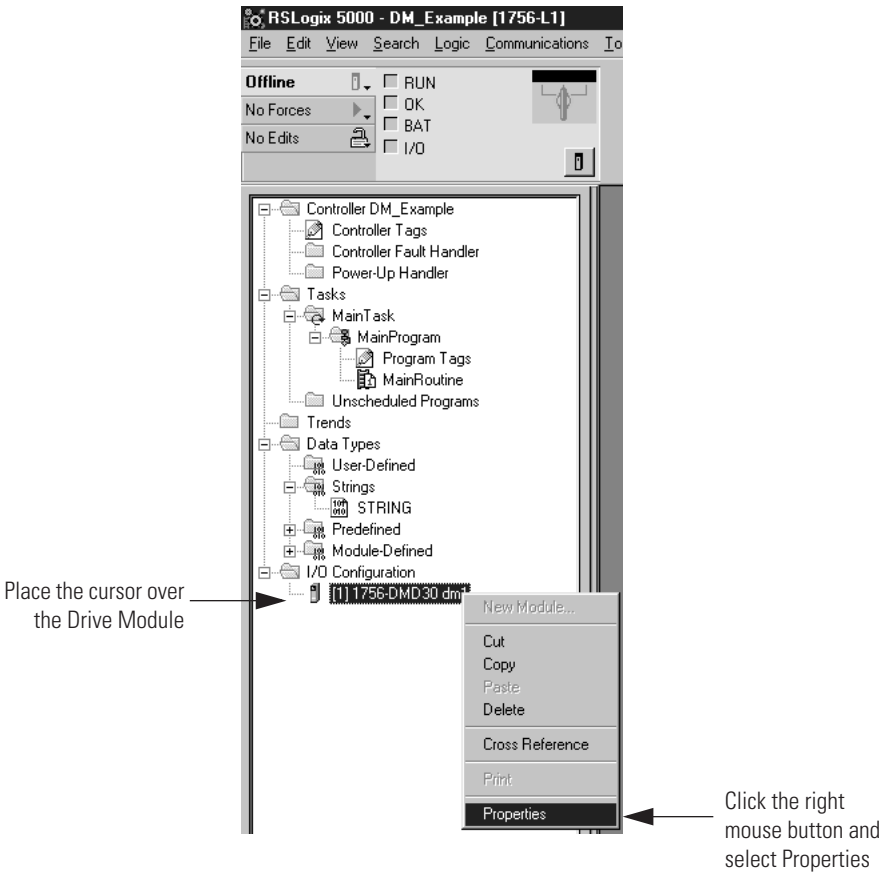




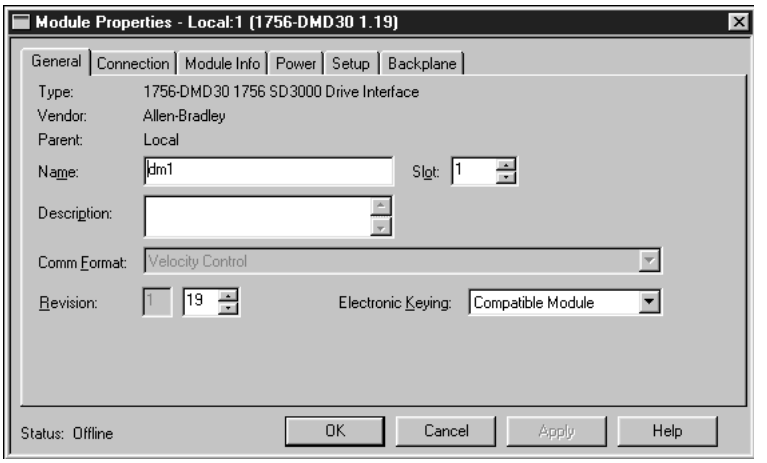
Add a Drive Module to the Project (continued)



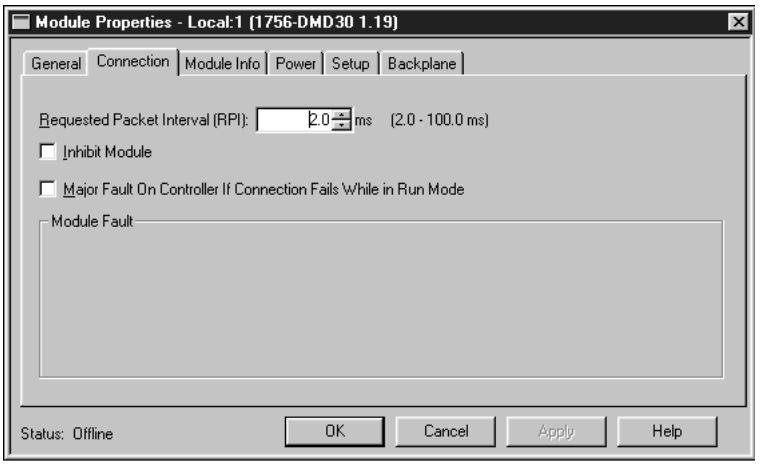
Monitor and Configure the Module



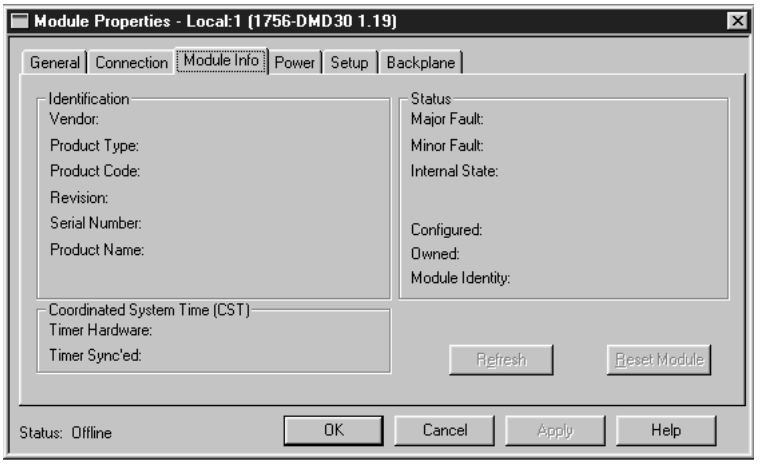
Monitor and Configure the Module (continued)



Use the General tab to view or modify the module name, slot number, controller communication format, revision or keying configurations

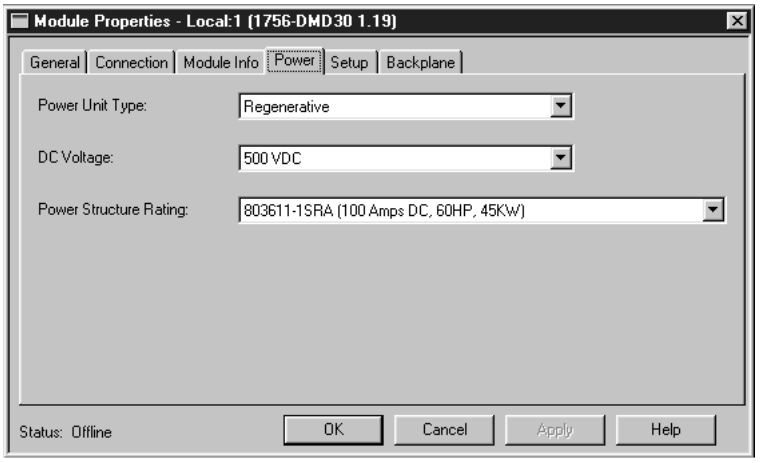


Use the Connection tab to view or modify the configuration of the connection to the controller and to view module faults.



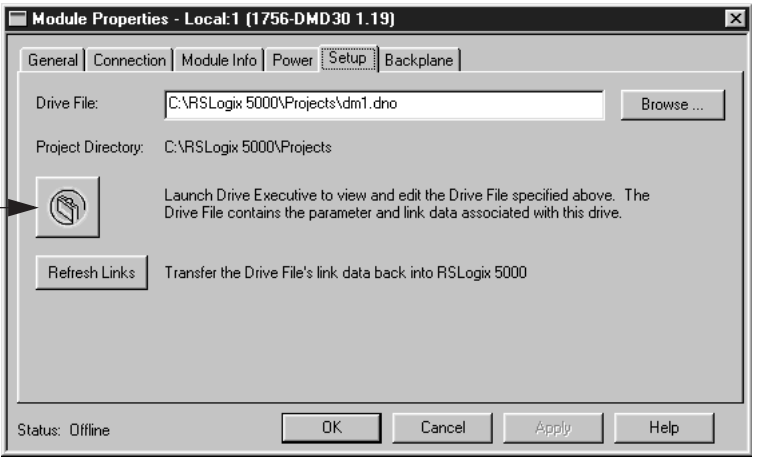
Use the Module Info tab to view module identification information, module status and CST status.

Monitor and Configure the Module (contintued)



Use the Power tab to view or modify configuration for the power unit connected to the Drive Module

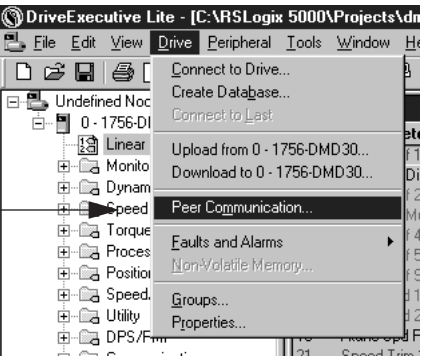
Click this button to launch DriveExecutive



Using DriveExecutive to Configure Drive Module

Configure the Drive Module's Peer Communication

Select Peer Communication from Drive Menu



On the SynchLink Setup Tab

The settings you make on this tab determine what the module does during every SynchLink Update cycle

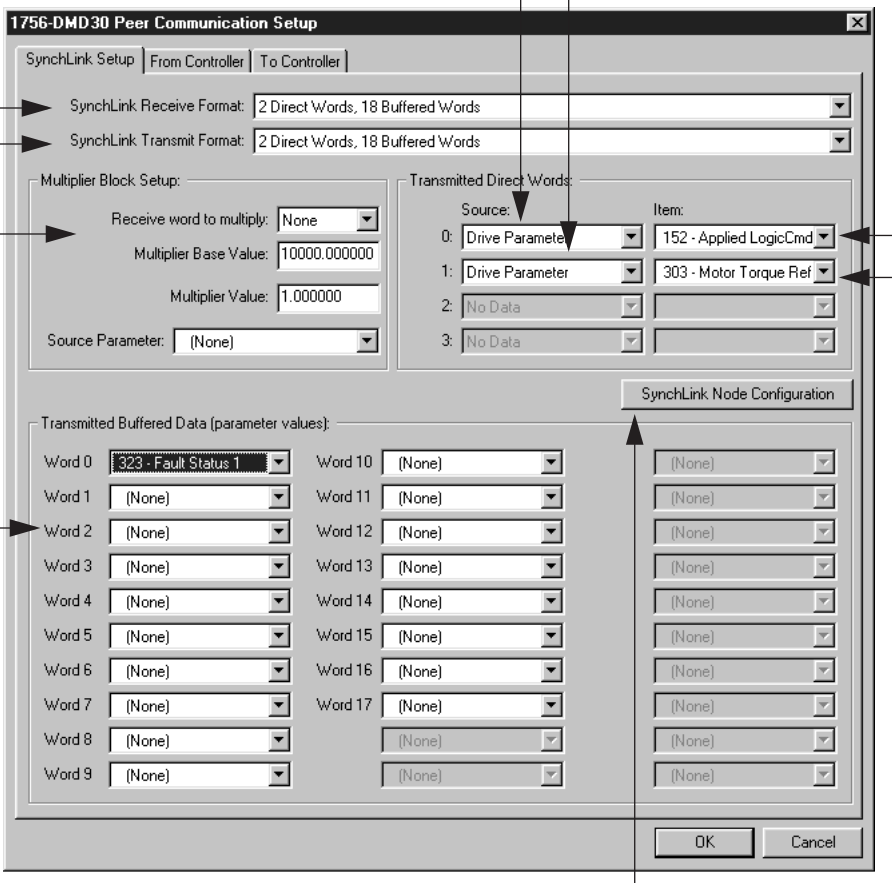
Select sources for Direct Data transmissions

Select the Receive and Transmit Formats

Configure the Multiplier Block

Select source parameters for Direct Data, if the sources are drive parameters

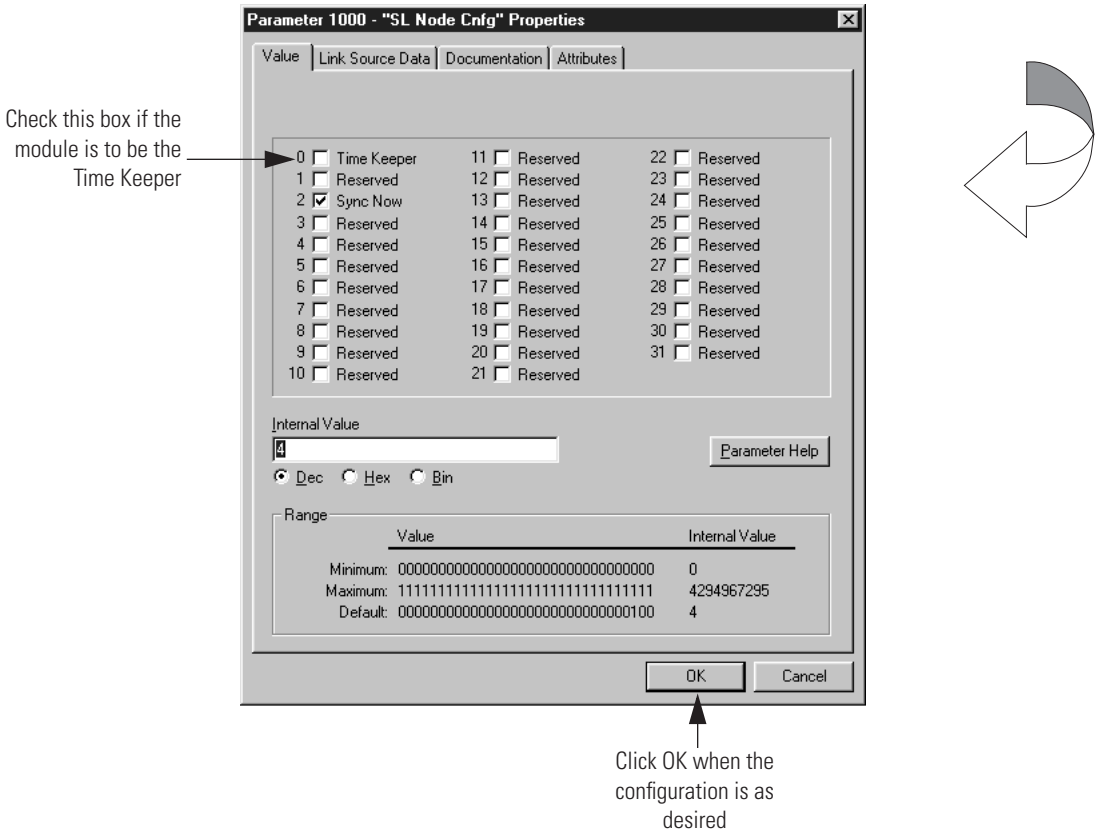
Select source parameters for Buffered Data transmissions



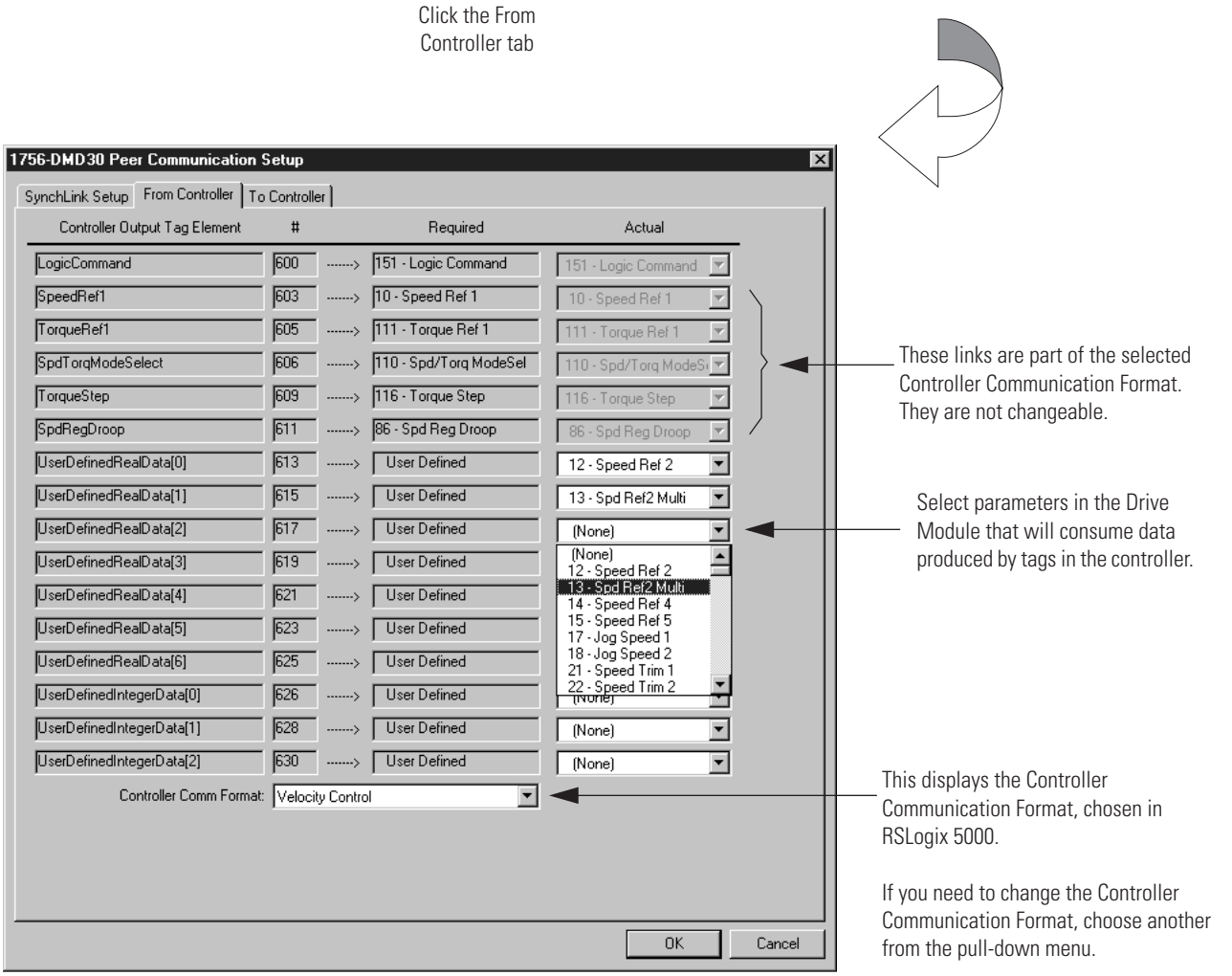
Click SynchLink Node Configuration to open SynchLink Node Configuration Window

Configure the Drive Module's Peer Communication (continued)

The value tab is useful for configuring the module as a Time Keeper

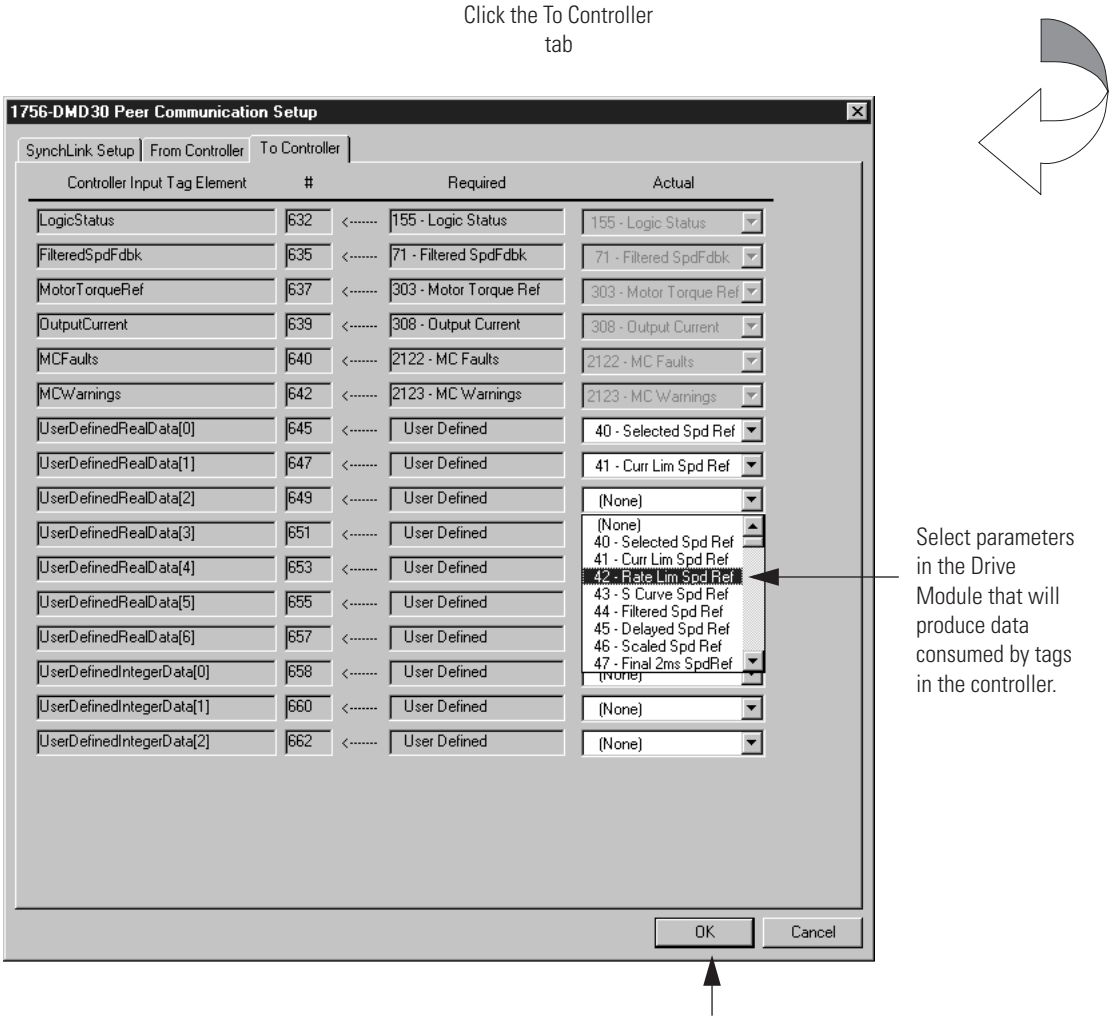


Configure the Drive Module's Peer Communication (continued)



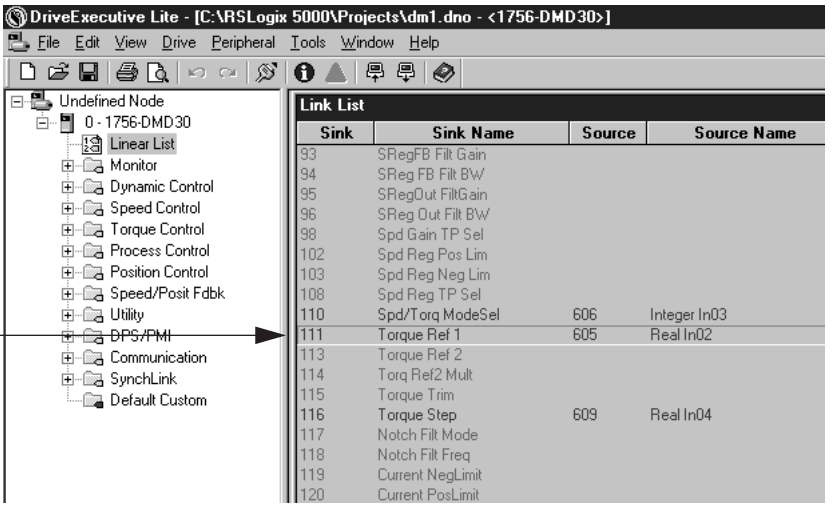
IMPORTANT Conflicts between the DriveExecutive and RSLogix 5000 configurations cause communication faults. Make sure the Controller Communication Format is the same in DriveExecutive and RSLogix 5000 before downloading.

Configure the Drive Module's Peer Communication (continued)



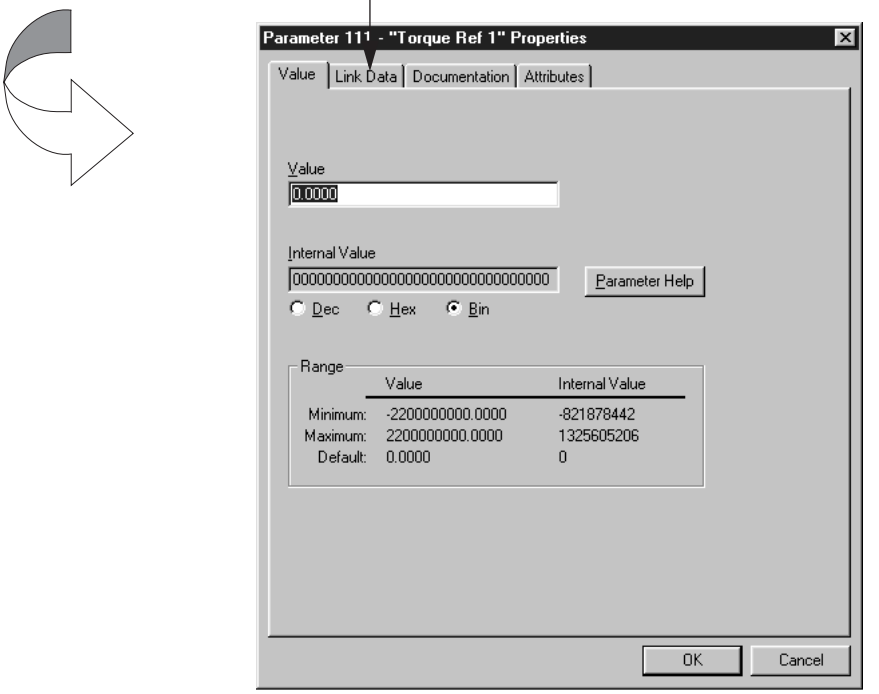
Configure the Drive Module's Links to SynchLink Data

On the Link List

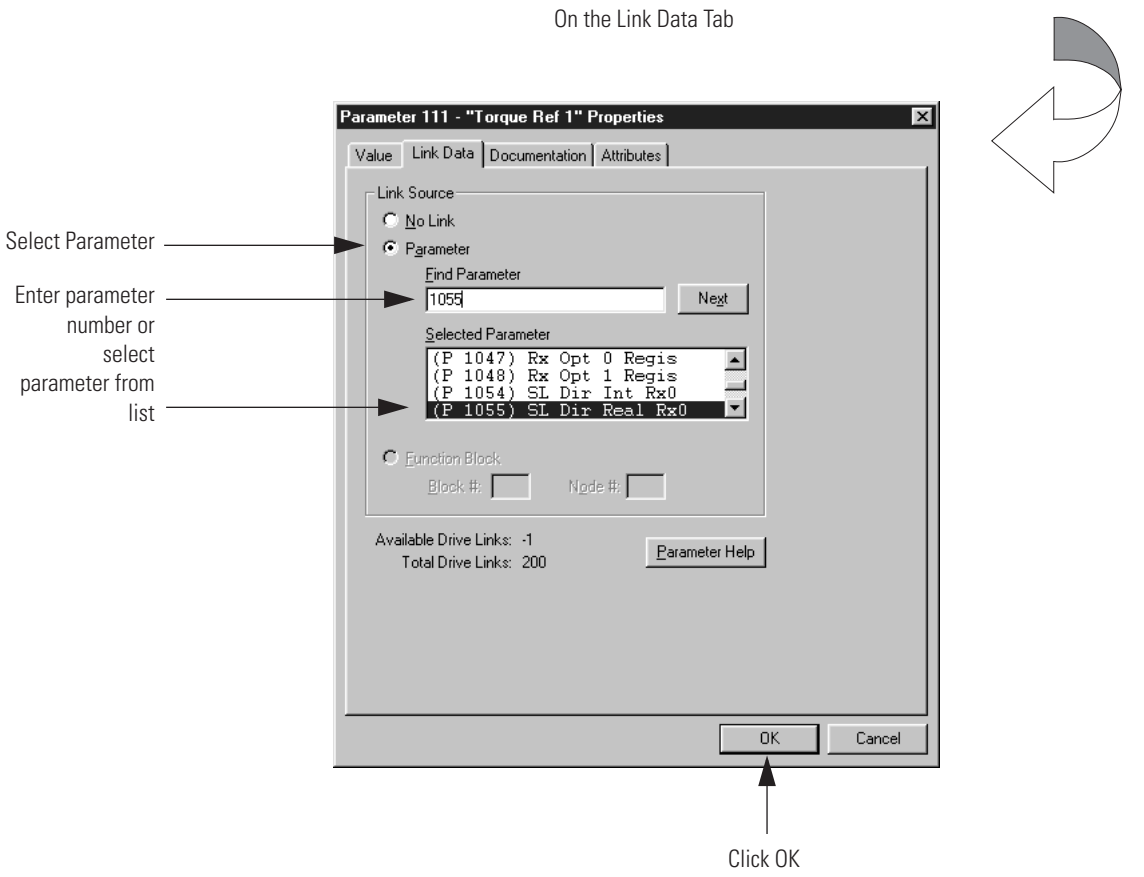


Double - click on the parameter you want to consume SynchLink data

Click on the Link Data tab



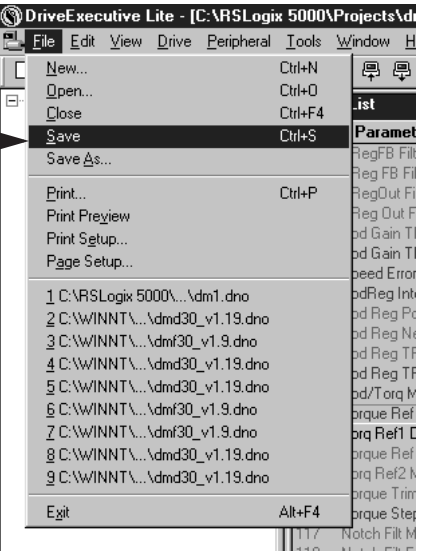
Configure the Drive Module's Links to SynchLink Data (continued)



IMPORTANT The data format (e.g. Real or Integer) of the sink parameter must match the data format of the source parameter.

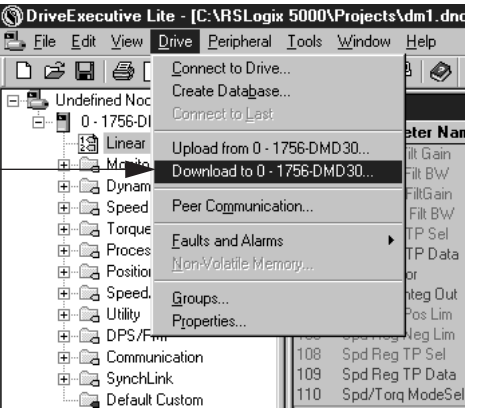
Save the Project

Select Save from the File menu



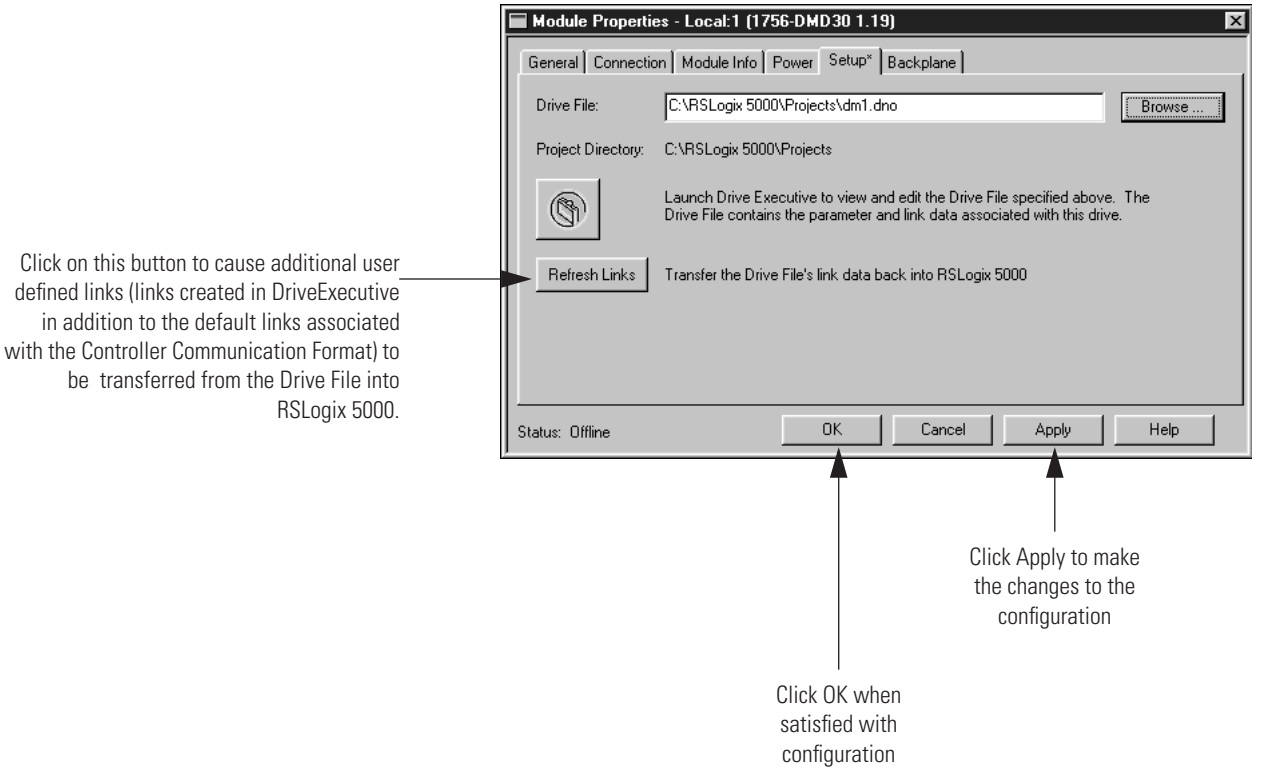
Download the Project

Select Download from the Drive menu



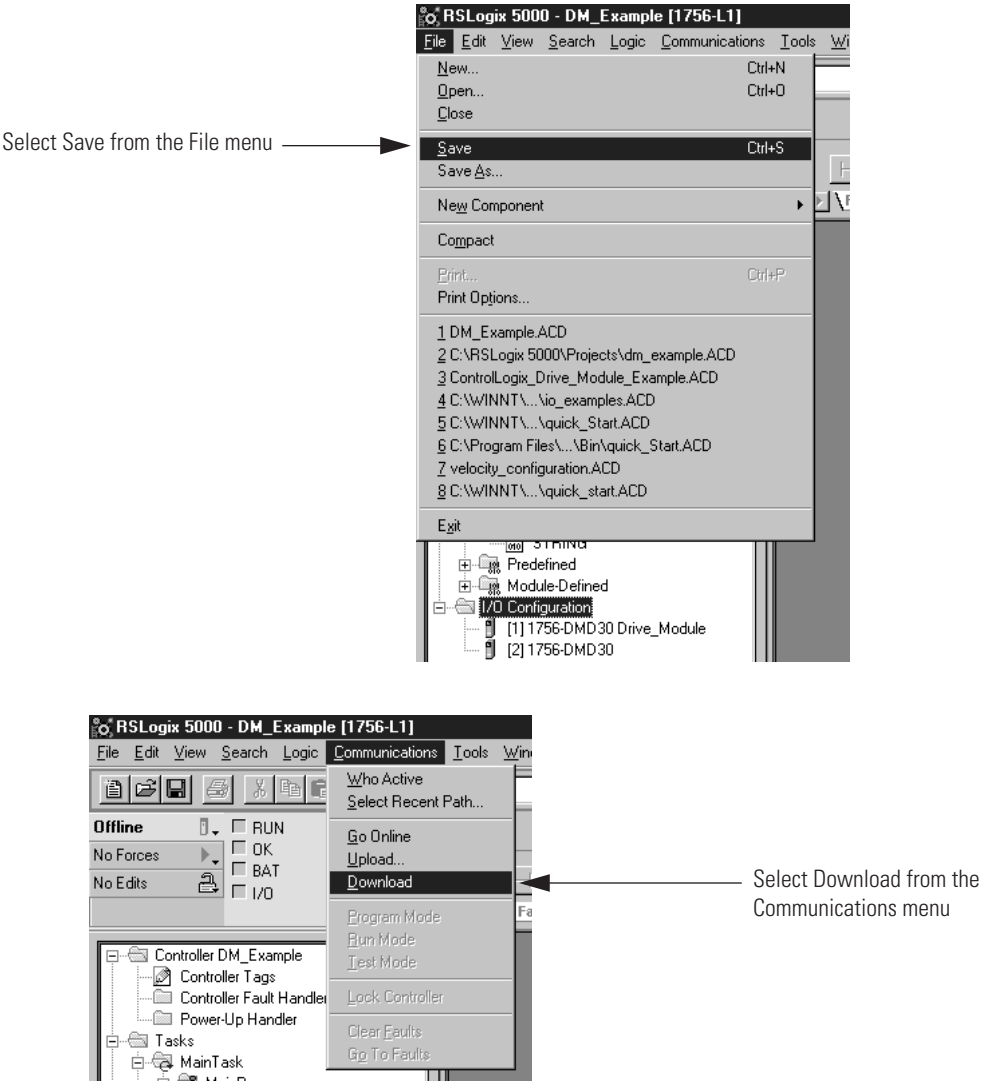
Return to RSLogix 5000 to Finish Configuring the Drive Module

Complete Setup Properties



IMPORTANT Refreshed links will not take affect unless both the RSLogix and Drive Executive projects have been downloaded.

Save and Download



Chapter Summary and What's Next

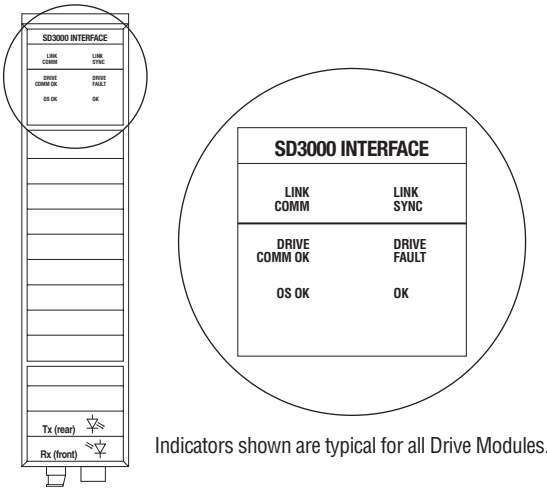
In this chapter, you learned how to configure the ControlLogix Drive Module. Move to Chapter 6, Troubleshooting the Drive Module, to learn how to troubleshoot the module.

Troubleshooting the Drive Module

This chapter describes how to troubleshoot the ControlLogix Drive module.

Using the Status Indicators

Bi-colored (red/green) LEDs indicate the status of several module functions.



Indicators shown are typical for all Drive Modules.

During power up, the OK indicator turns red for 5 seconds and then turns to flashing green if it has passed the self-test.

Use the table on the next page to troubleshoot your module.

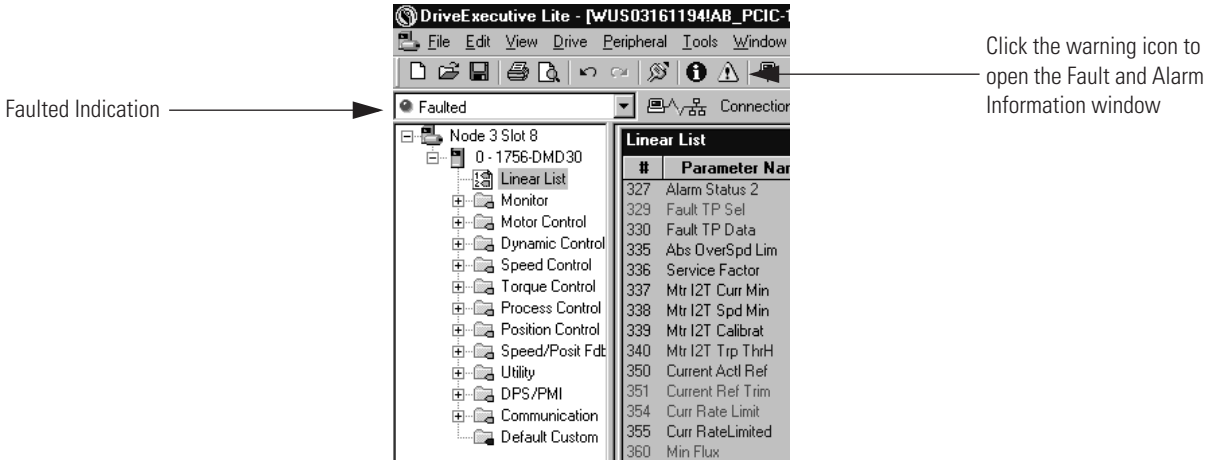
LED Indicator	Display	Means	Take this Action
OK	Green	Connection is running.	None
	Flashing Green	Inhibited I/O connection.	None
	Red	Non-Recoverable Fault	Remove module from service
	Flashing Red	Flash download in progress.	None
	Off	Module is powered down.	None
DRIVE FAULT	Red	Module is faulted.	See Fault Status parameters.
	Off	No fault is present or module is powered down.	None
LINK SYNC	Green	The module is the time master or a time relay and synchronization is complete.	None
	Flashing Green	The module is configured as a time relay from CST to SynchLink but is not synchronized with a CST master on the backplane.	N/A
		The module is configured as a time relay from SynchLink to CST but has not synchronized with the upstream device.	N/A
	Flashing Red	The module is configured as a CST master and has detected another CST master.	N/A
		The module is configured as a time master on SynchLink and has received time information from another time master on SynchLink.	Ensure that only 1 time master is present and transmitting time information on SynchLink.
	Off	The module is not configured as a time master or time relay or module is powered down.	None
OS OK	Green	System and parameter constants loaded.	None
	Off	Checksum failure.	Reflash the module.
DRIVE COMM OK	Green	DPS communication is active and synchronized.	None
	Off	DPS communication is not active, is not synchronized, or the module is powered down.	Verify that cables are securely connected.
LINK COMM	Green	The module is configured and receiving valid data from SynchLink.	None
		The module is configured and enabled to only transmit on SynchLink.	None
	Off	The module is configured but not receiving valid data from SynchLink.	Verify that cables are securely connected.
		The module is configured but not enabled to transmit on SynchLink.	Enable module transmitter.
		Module is powered down.	Power the module.

Using DriveExecutive to Troubleshoot the Module

DriveExecutive (a program in the DriveTools 2000 suite) alerts you to fault conditions. If your are online with the Drive Module, the software will alert you in the following ways:

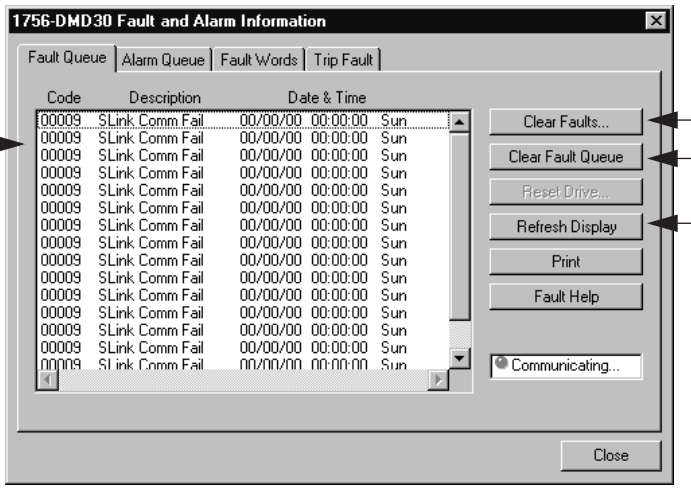
- Warning signal on the main screen
- Notification in the Fault and Alarm Information Window
- Diagnostic parameters

Warning Signal on Main Screen



Fault and Alarm Window

Fault Queue Tab



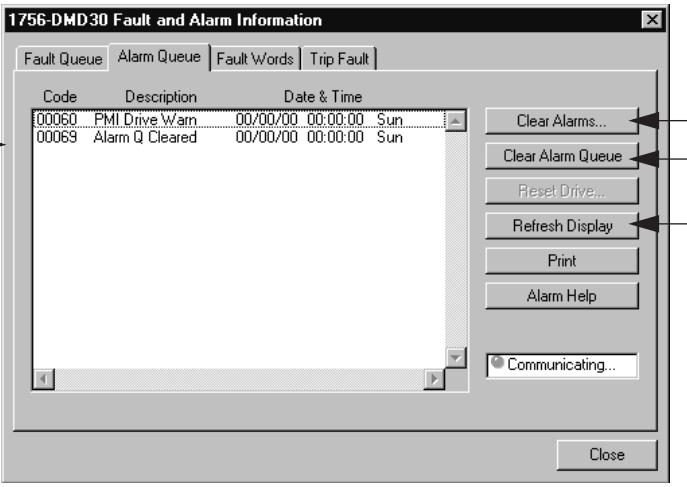
The Fault Queue - a list of fault codes, descriptions and the times they occurred

Click here to clear faults

Click here to empty fault queue

Click here to get new fault information from the Drive Module

Alarm Queue Tab



The Alarm Queue - a list of alarm codes, descriptions and the times they occurred

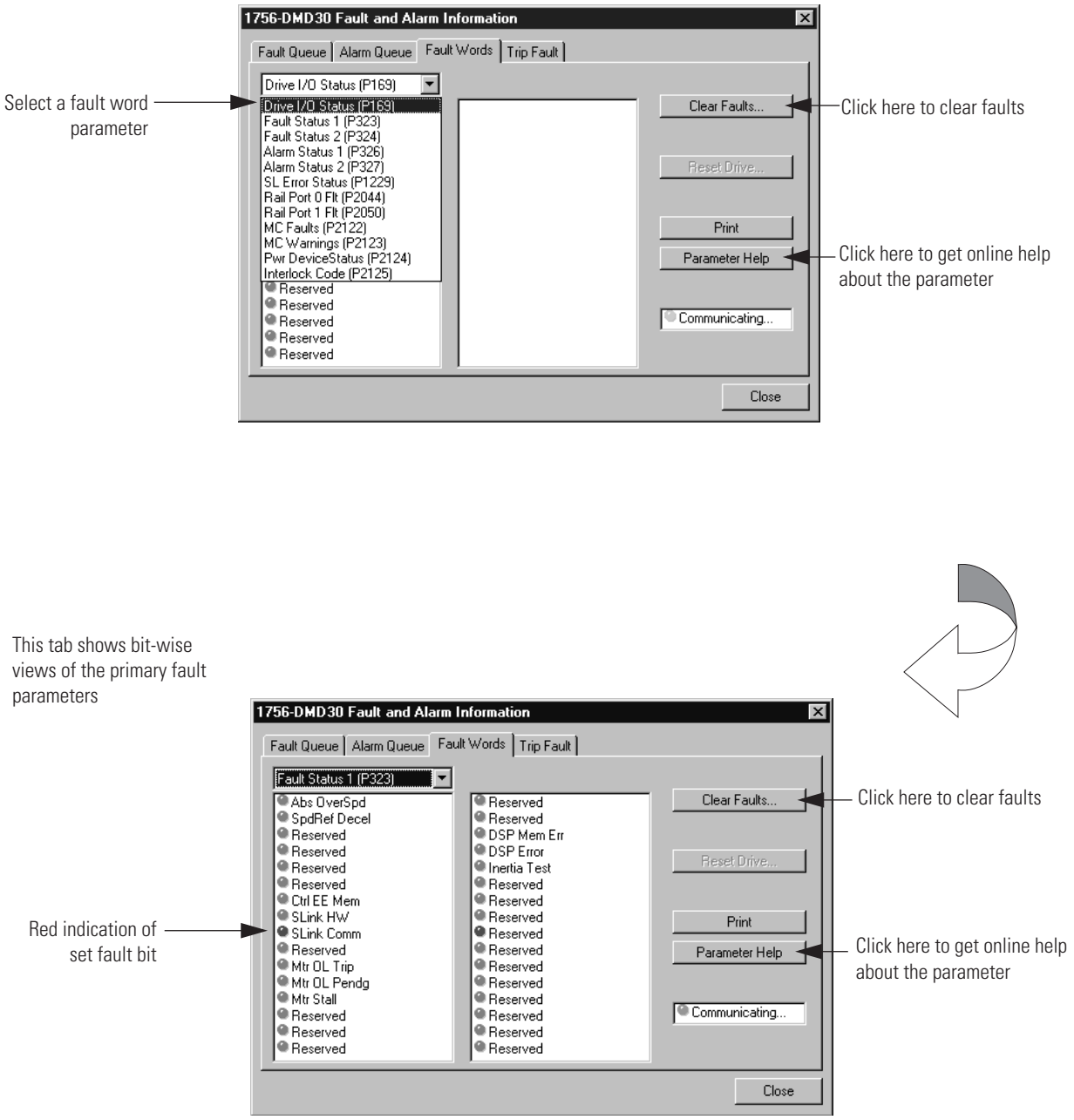
Click here to clear alarms

Click here to empty alarm queue

Click here to get new alarm information from the Drive Module

Fault and Alarm Window (continued)

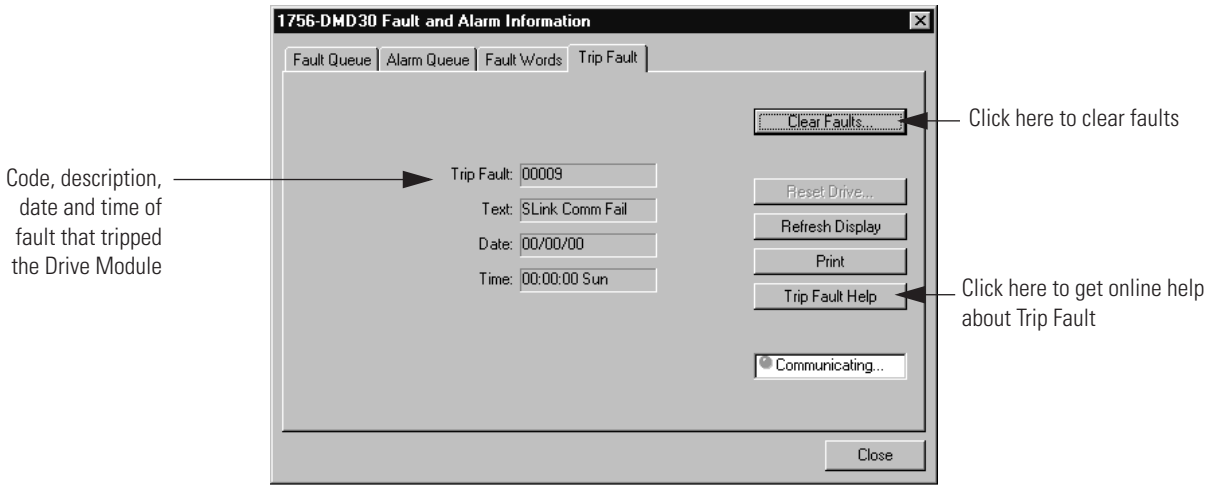
Fault Words Tab



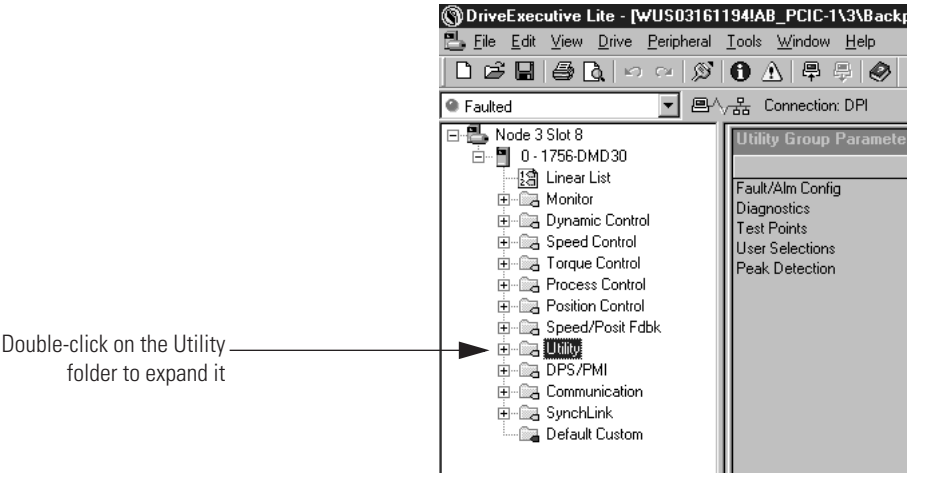
Refer to the appropriate appendix to interpret fault information that is specific to a certain Drive Module

Fault and Alarm Window (continued)

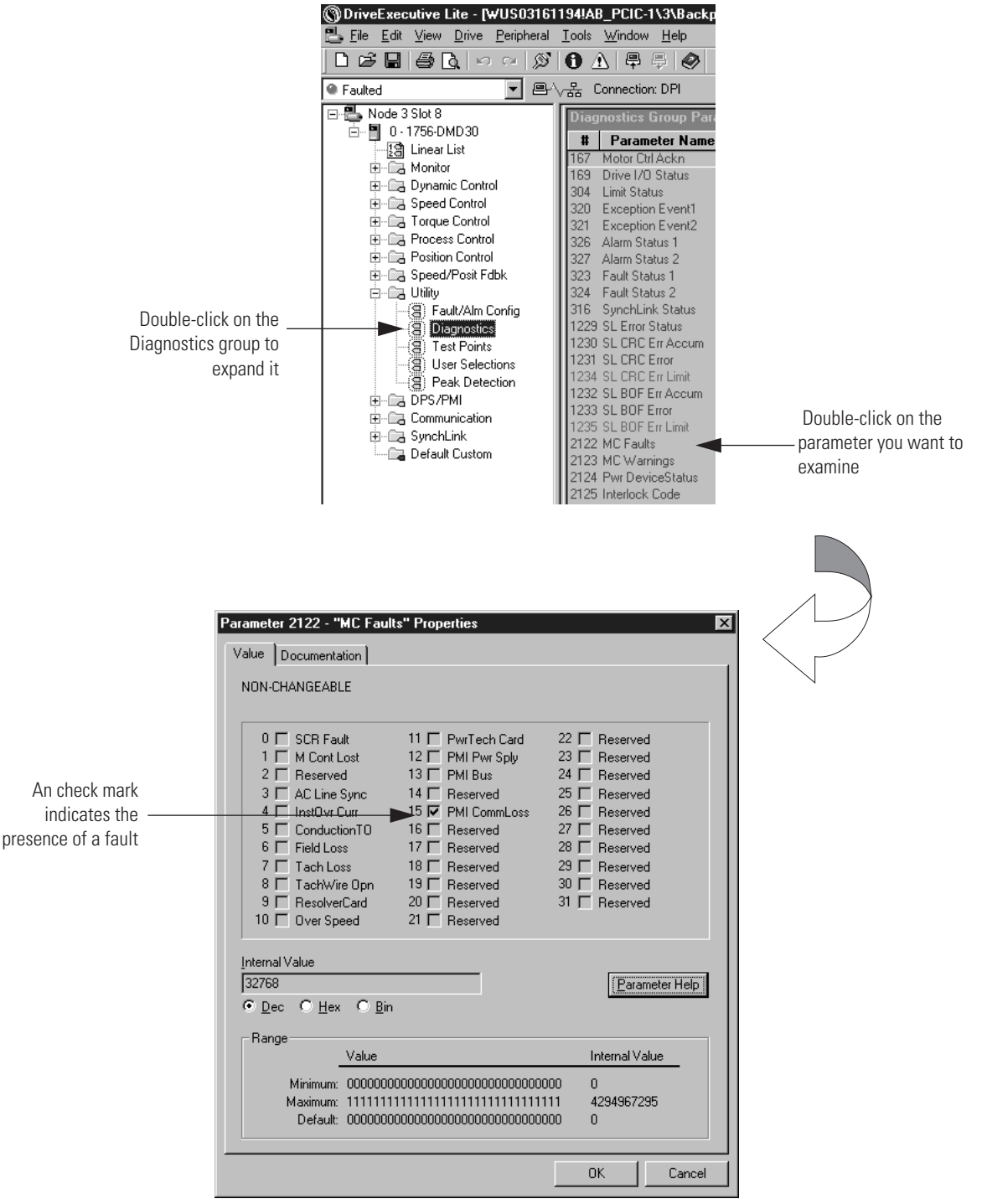
Trip Fault Tab



Diagnostic Parameters



Diagnostic Parameters (continued)



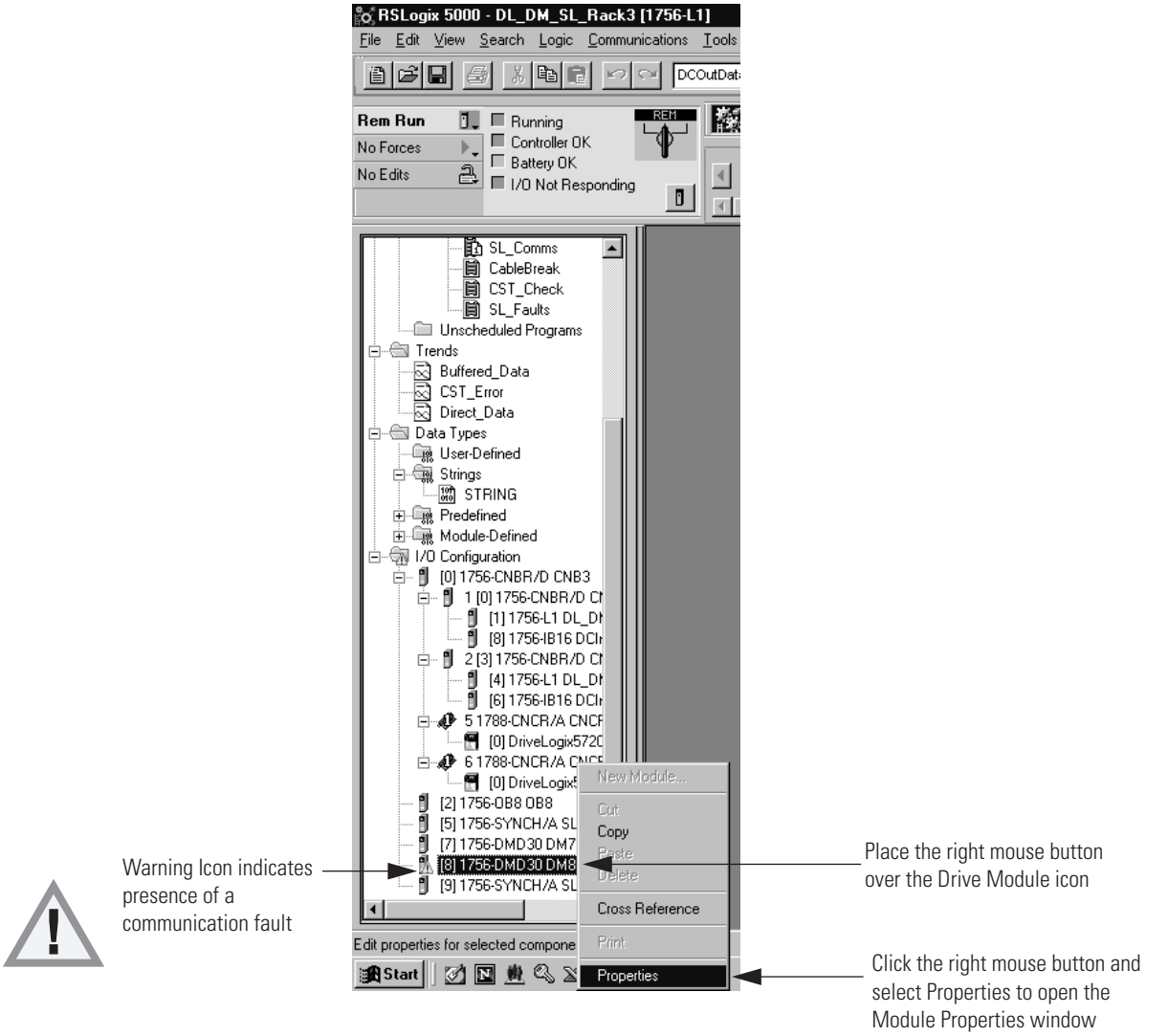
Refer to the appropriate appendix to interpret fault information that is specific to a certain Drive Module

Using RSLogix 5000 to Troubleshoot the Module

RSLogix 5000 alerts you to fault conditions. If your are online with the Drive Module the software will alert you in the following ways:

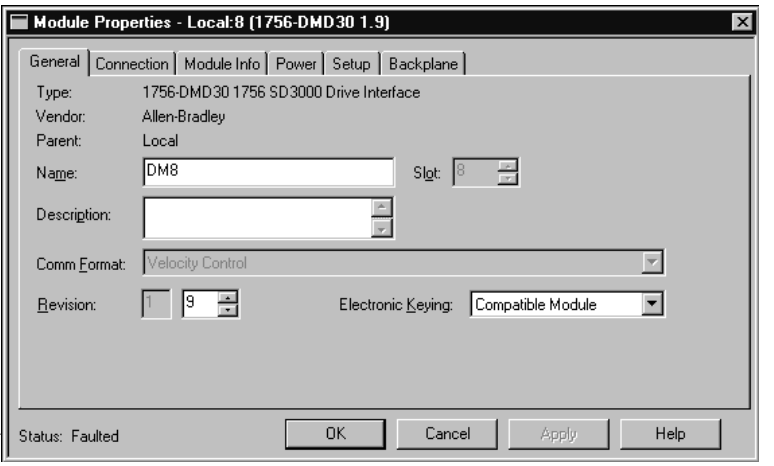
- Warning signal on the main screen next to the module-This occurs when the connection to the module is broken
- Status on the Module Info Page

Warning Signal on Main Screen



Module Properties Window

General Tab

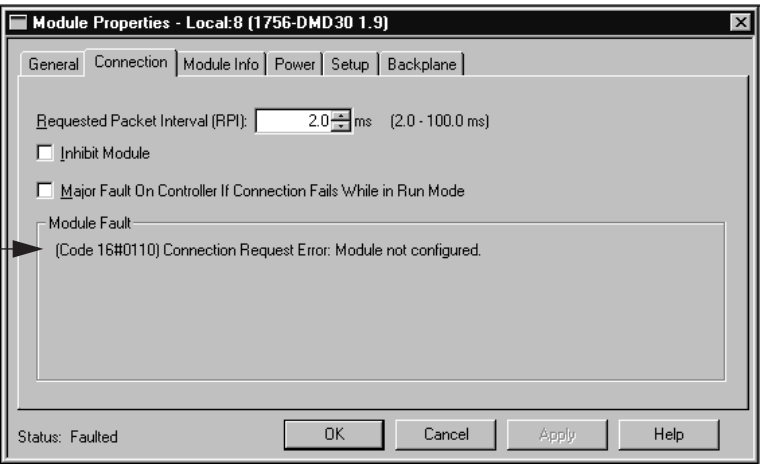


Status line provides information on the connection to the module

ATTENTION

Be extremely cautious when using the disable keying option; if used incorrectly, this option can lead to personal injury or death, property damage or economic loss.

Connection Tab

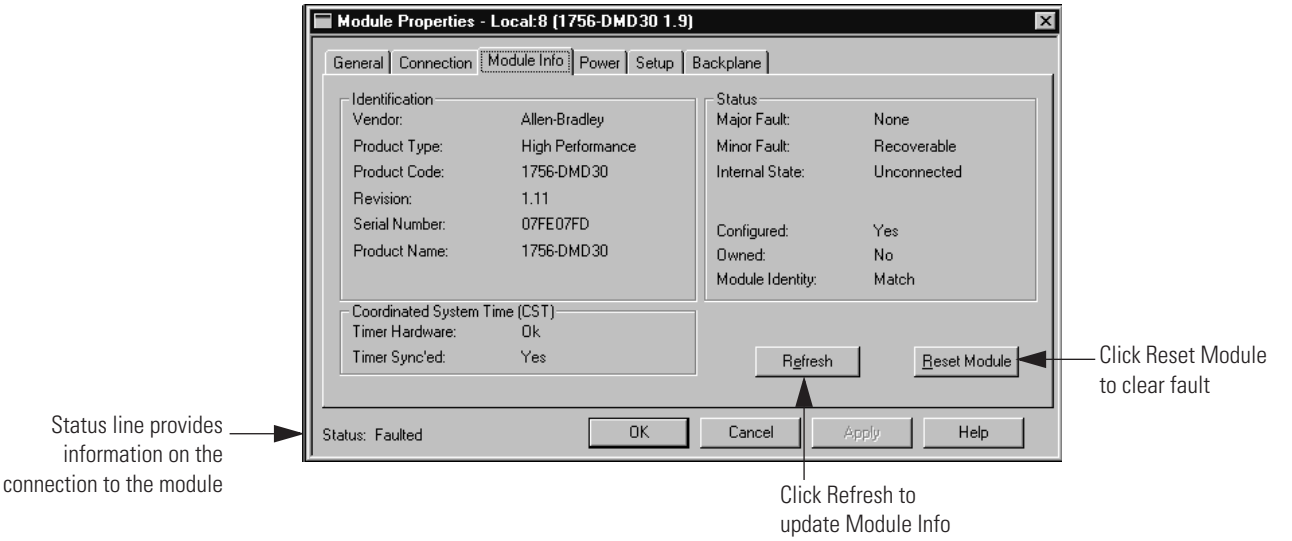


Code number and description of fault

Status line provides information on the connection to the module

Module Properties Window (continued)

Module Info Tab



Chapter Summary and What's Next

In this chapter, you learned how to troubleshoot the ControlLogix Drive module. Move to Appendix A to see the module's specifications.

Specifications

Module Specifications

Consideration	Description	
Module Location	1756 ControlLogix Chassis	
Backplane Current	1.35A at 5.1V DC and 3.0mA at 24V DC	
Maximum Power Dissipation	6.96 W	
Thermal Dissipation	23.7 BTU/hr	
Indicators	Green and red indicators for operation, status, and diagnostics.	
Environmental Conditions		
Operating Temperature	0° to 60°C (32° to 140°F)	
Storage Temperature	-40° to 85°C (-40° to 185°F)	
Relative Humidity	5 to 95% non condensing	
Shock		
Operating	30g peak acceleration, 11 (±1 ms) pulse width	
Non-operating	50g peak acceleration, 11 (±1 ms) pulse width	
Vibration	Tested 2g at 10-500Hz per IEC 68-2-6	
Reliability	Mean Time Between Failure (MTBF) 1.7 million hours	
Agency Certification (When product is marked.)	UL	Listed Industrial Control Equipment
	CSA	Certified Process Control Equipment Certified Class I, Division 2, Group A, B, C, D
	FM	Approved Class I, Division 2, Group A, B, C, D
	CE	Marked for all applicable directives
	C-Tick N223	Marked for all applicable acts

Communication Specifications

Consideration	SynchLink	Drive Communication
Connecting Cables	(1)200/230 micron HCS (Hard Clad Silica) Versalink V-System Lucent Technologies, Specialty Fibers Technology Division	(2)62.5/125 micron glass One pair SC Style, one pair ST Style Breakout Cables: Belden 225362 or Mohawk M92021
Maximum Cable Length	300 meters with no more than one splice or one adapter	300 meters with no more than one splice or one adapter
Minimum Cable Length	1 meter	1 meter

Consideration	SynchLink	Drive Communication
Operating Wavelength	650 nm (Red)	820 nm (InfraRed)
Data Rate	5 Mbps	10 Mbps
Maximum Node Count	10 - Daisy Chain, 256 - Star Configuration	1 - PMI Chassis

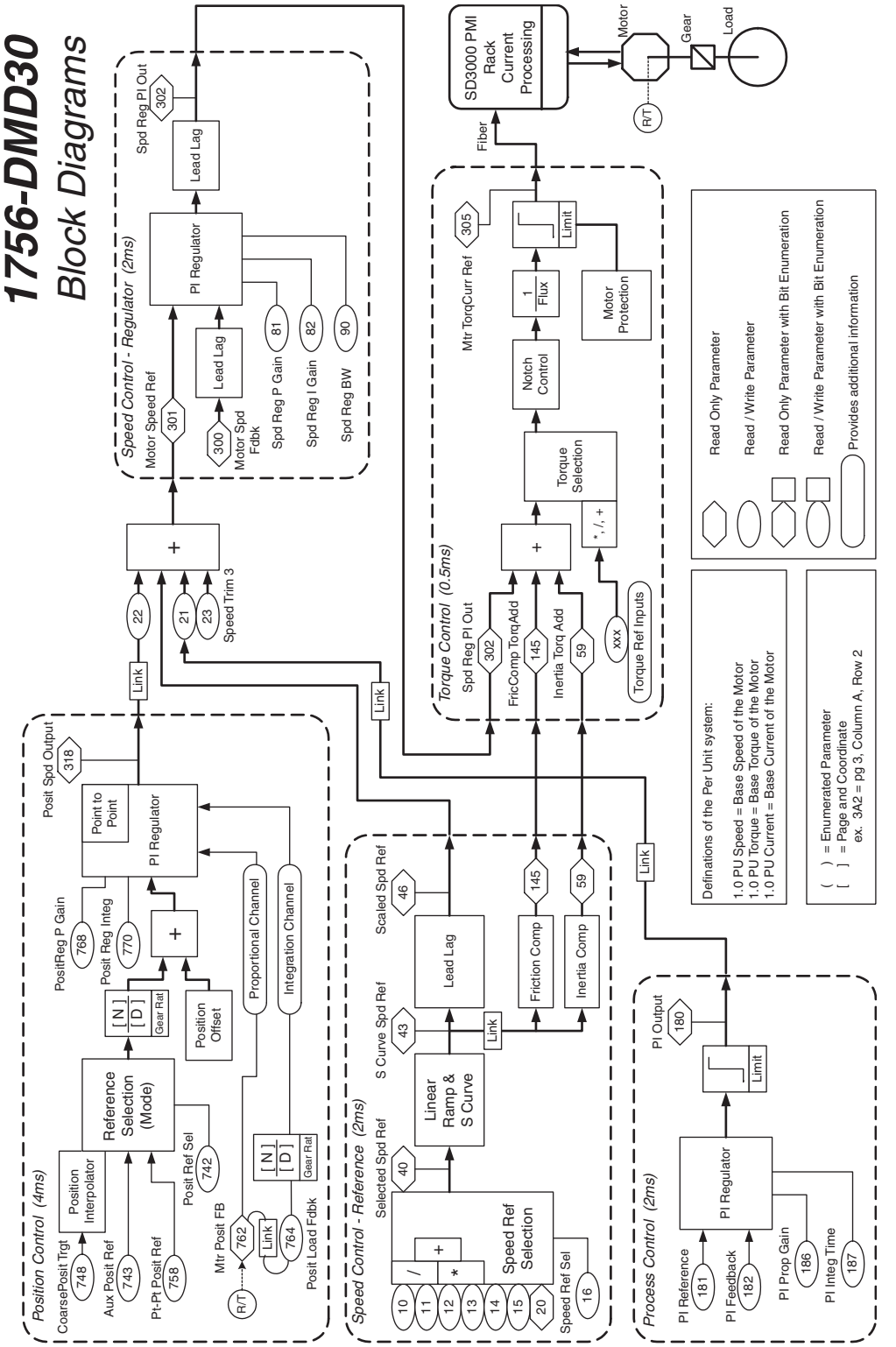
(1) See page 1-3 for Allen-Bradley catalog numbers.

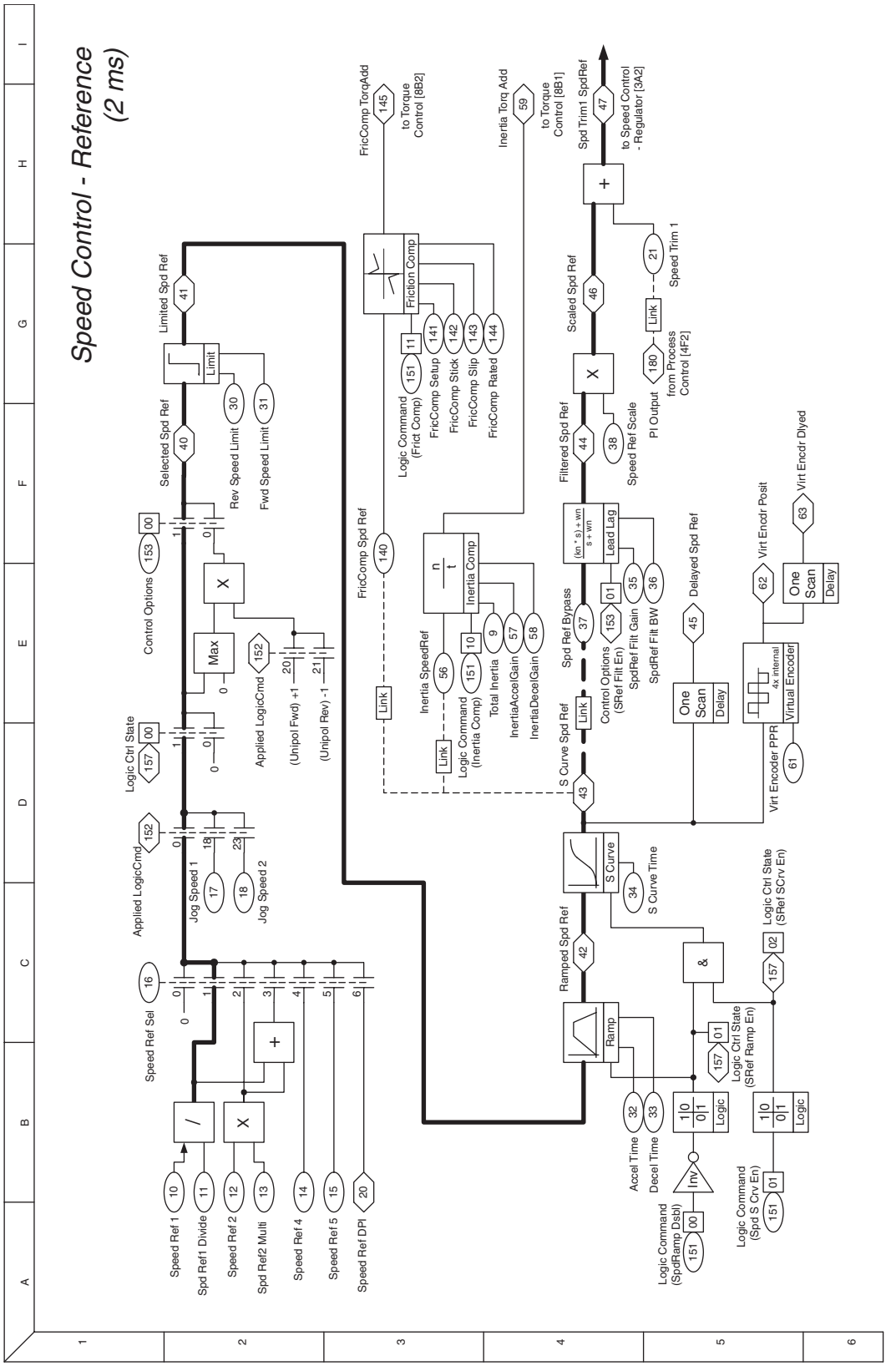
(2) See page 1-3 for Allen-Bradley catalog numbers.

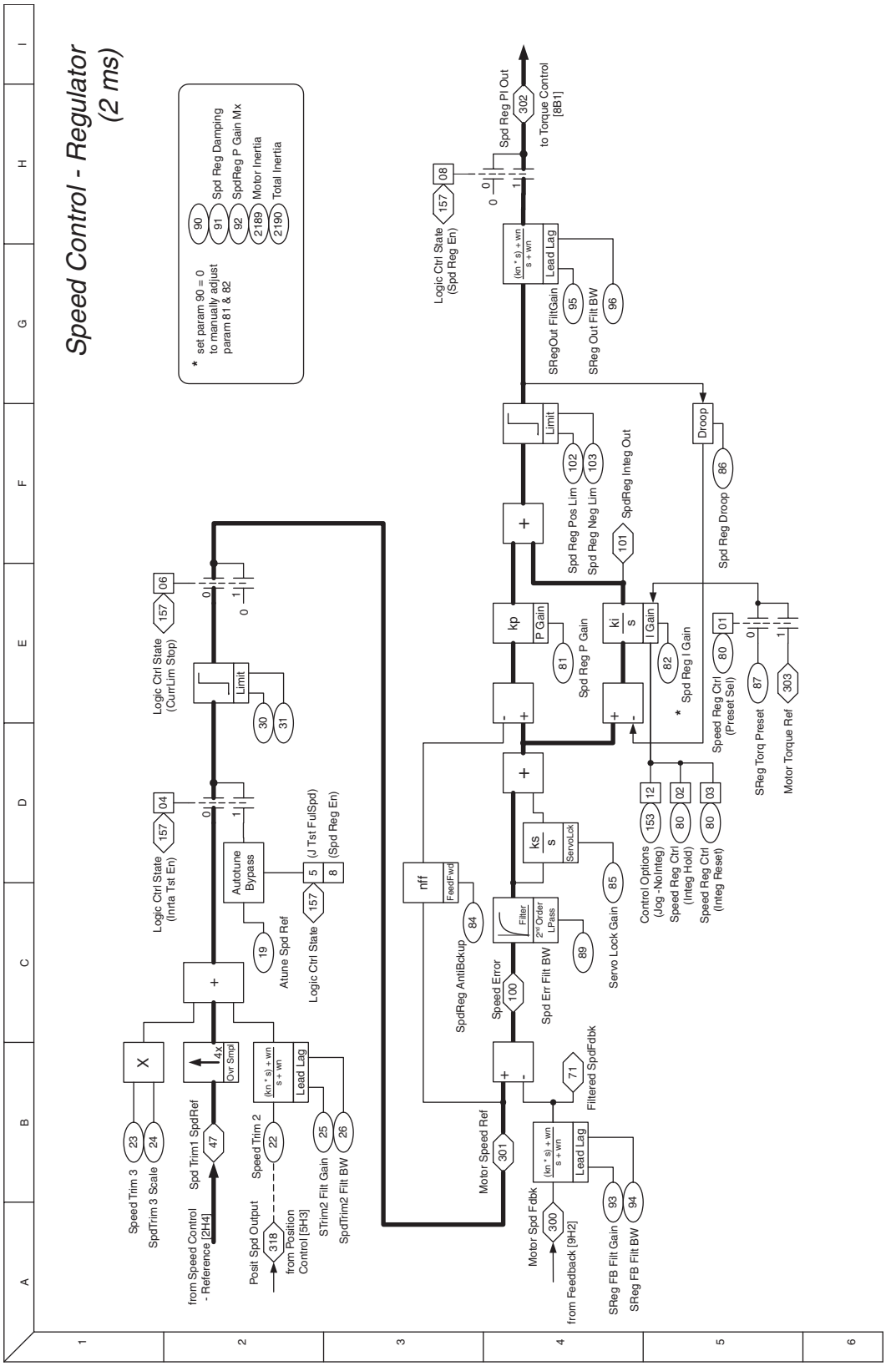
1756-DMD30 Specific Information

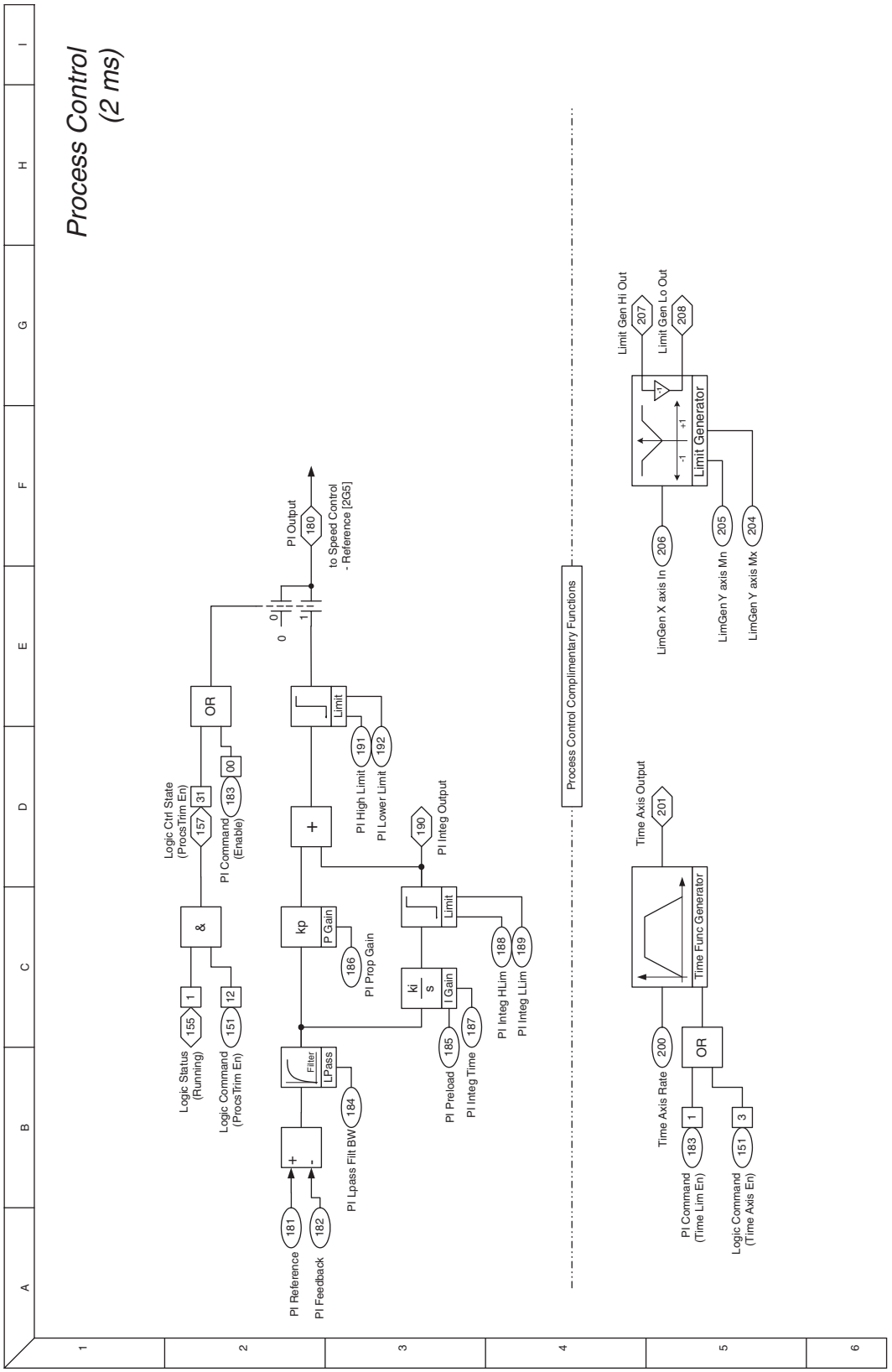
This appendix contains information that applies specifically to the 1756-DMD30.

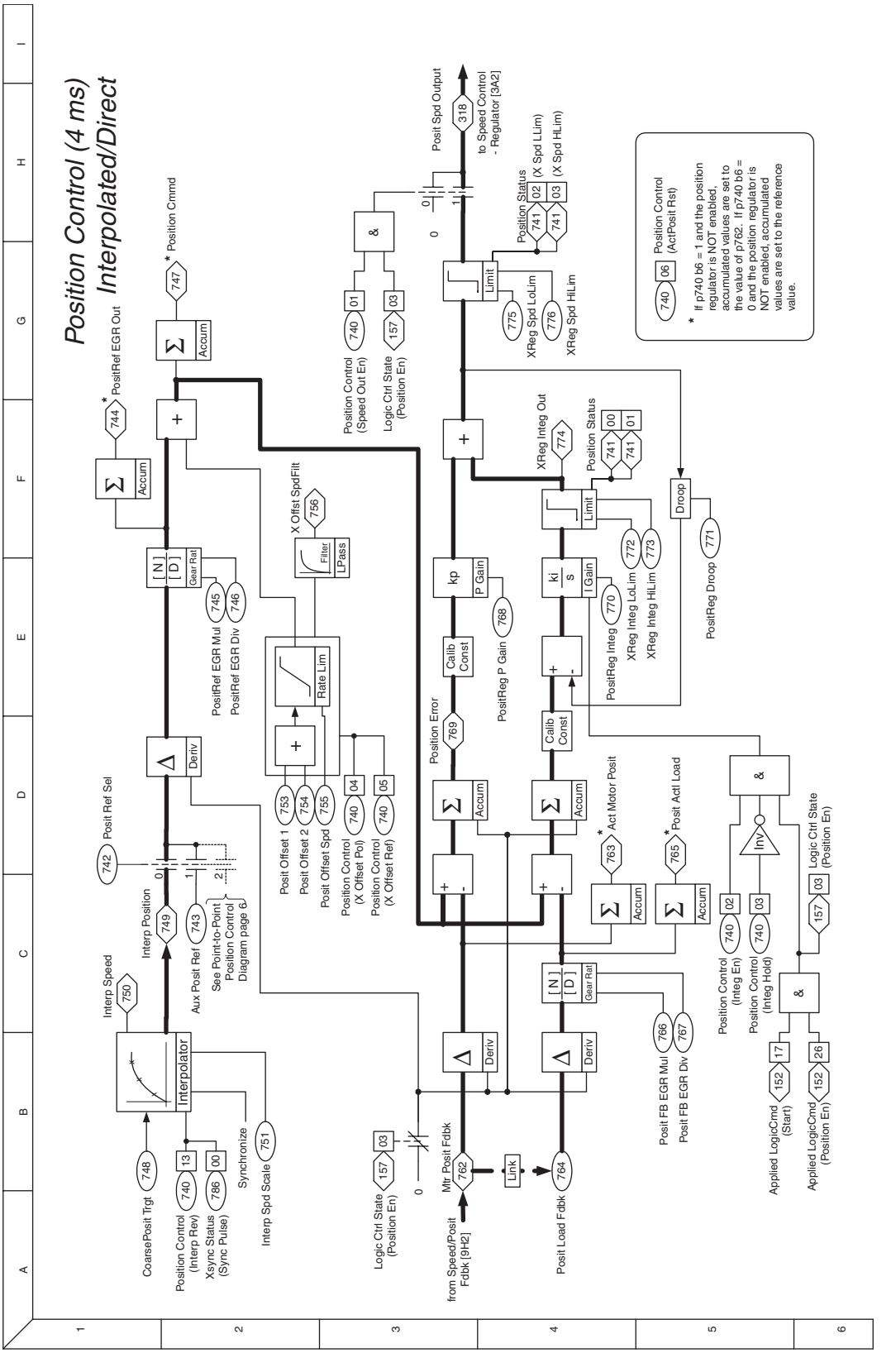
Control Block Diagrams

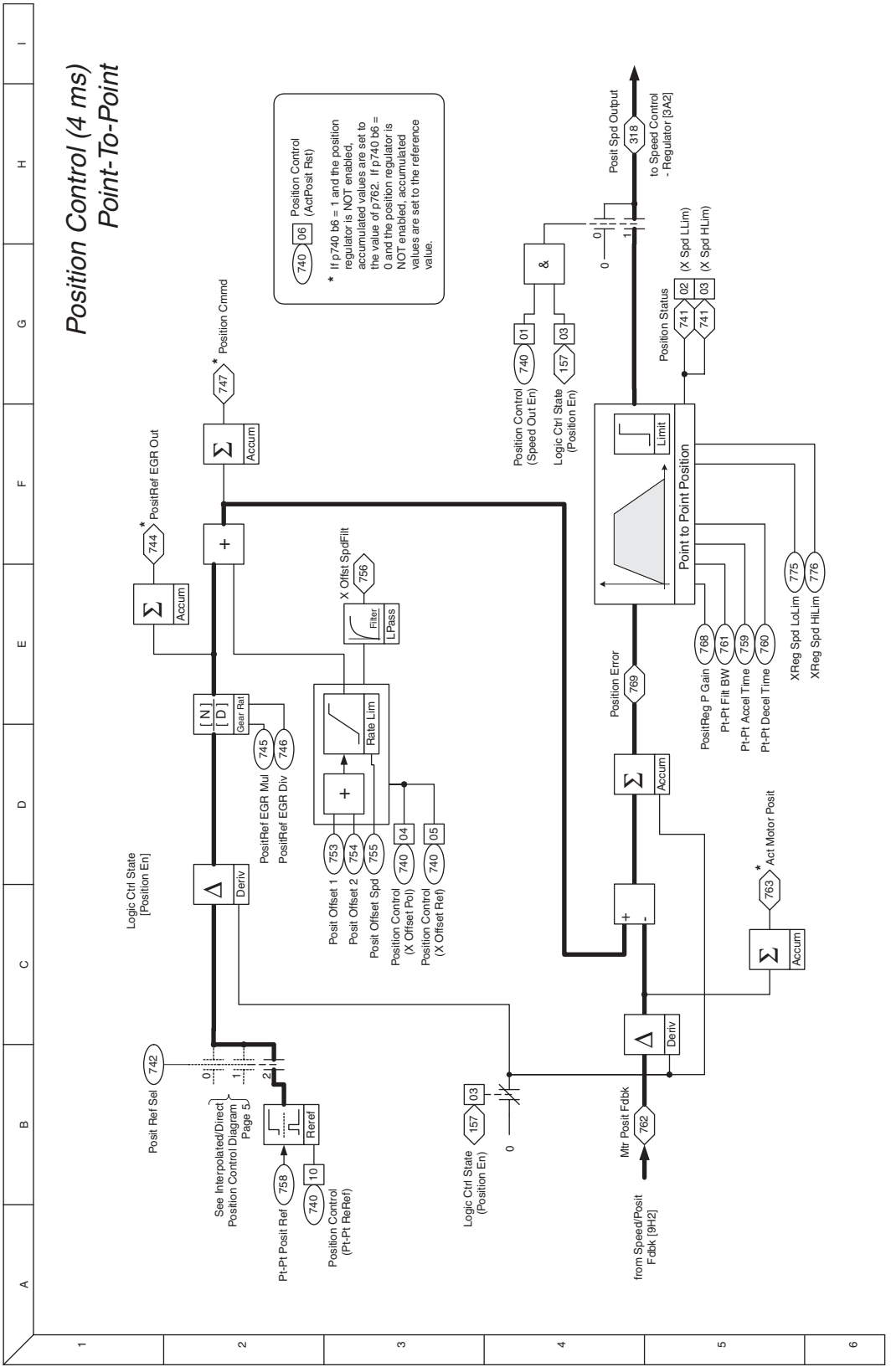


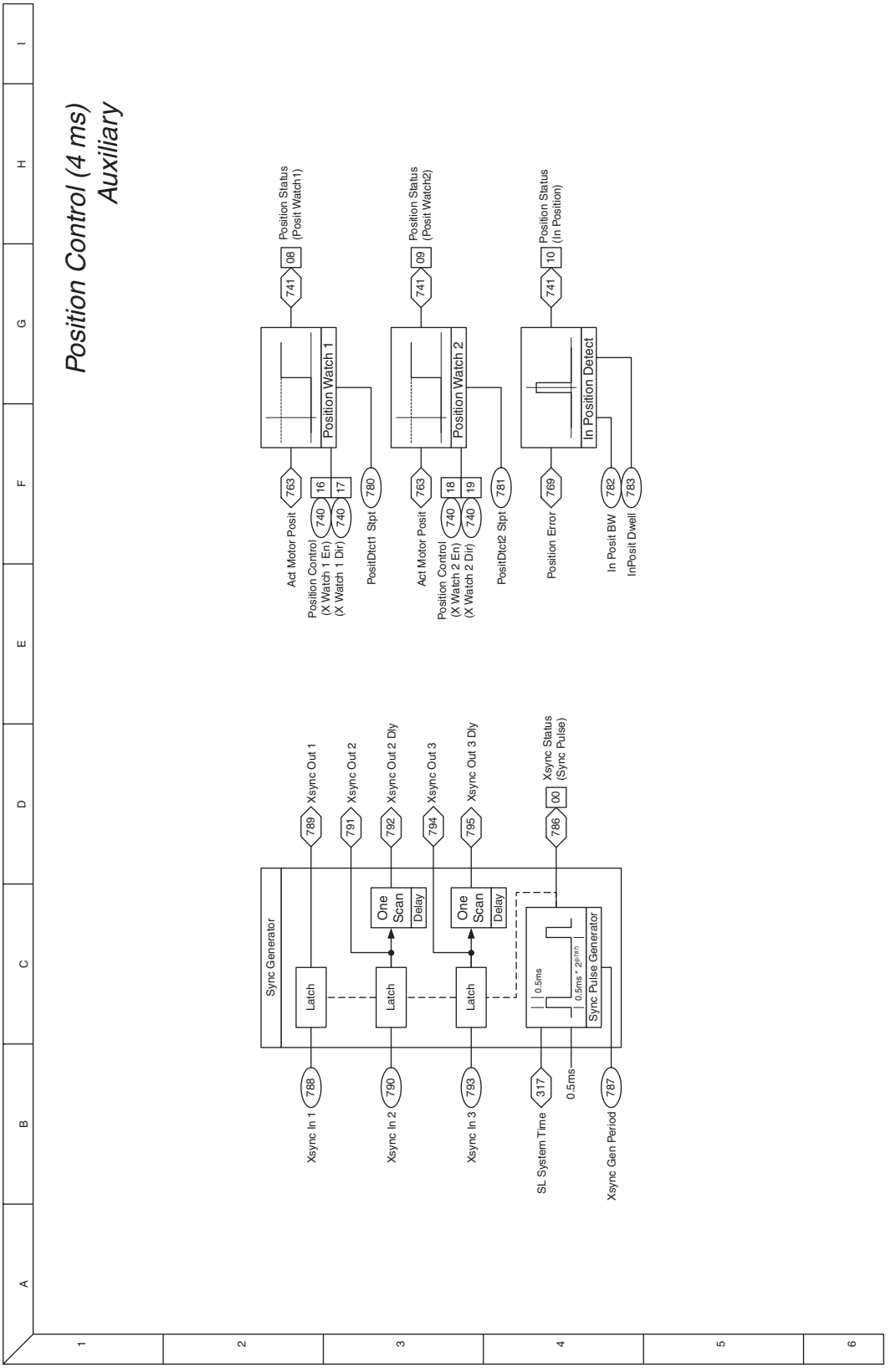

Speed Control - Reference
(2 ms)
Speed Ref Sel
Speed Ref 1
Spd Ref1 Divide
Speed Ref 2
Spd Ref2 Multi
Speed Ref 4
Speed Ref 5
Speed Ref DPI
Applied LogicCmd
Jog Speed 1
Jog Speed 2
Logic Ctrl State
Control Options
Max
Limit
Selected Spd Ref
Limited Spd Ref
Rev Speed Limit
Fwd Speed Limit
Applied LogicCmd
(Unipol Fwd) +1
(Unipol Rev) -1
FricComp Spd Ref
FricComp TorqAdd
Friction Comp
Logic Command (Fricl Comp)
FricComp Setup
FricComp Stick
FricComp Slip
FricComp Rated
to Torque Control [8B2]
Inertia SpeedRef
Logic Command (Inertia Comp)
Inertia Comp
Total Inertia
InertiaAccelGain
InertiaDecelGain
Inertia Torq Add
to Torque Control [8B1]
S Curve Spd Ref
Spd Ref Bypass
Control Options (SRef Filt En)
Lead Lag
SpdRef Filt Gain
SpdRef Filt BW
Filtered Spd Ref
Scaled Spd Ref
Speed Ref Scale
PI Output
from Process Control [4F2]
Speed Trim 1
Spd Trim1 SpdRef
to Speed Control - Regulator [3A2]
Delayed Spd Ref
One Scan Delay
Virt Encoder PPR
4x Internal Virtual Encoder
Virt Enodr Posit
Virt Enodr Dlyed
S Curve
S Curve Time
Ramped Spd Ref
Ramp
Accel Time
Decel Time
Logic Ctrl State (SRef Ramp En)
Logic Ctrl State (SRef SCrv En)
Logic Command (SpdRamp Dsbl)
Logic Command (Spd S Crv En)
Logic
Inv

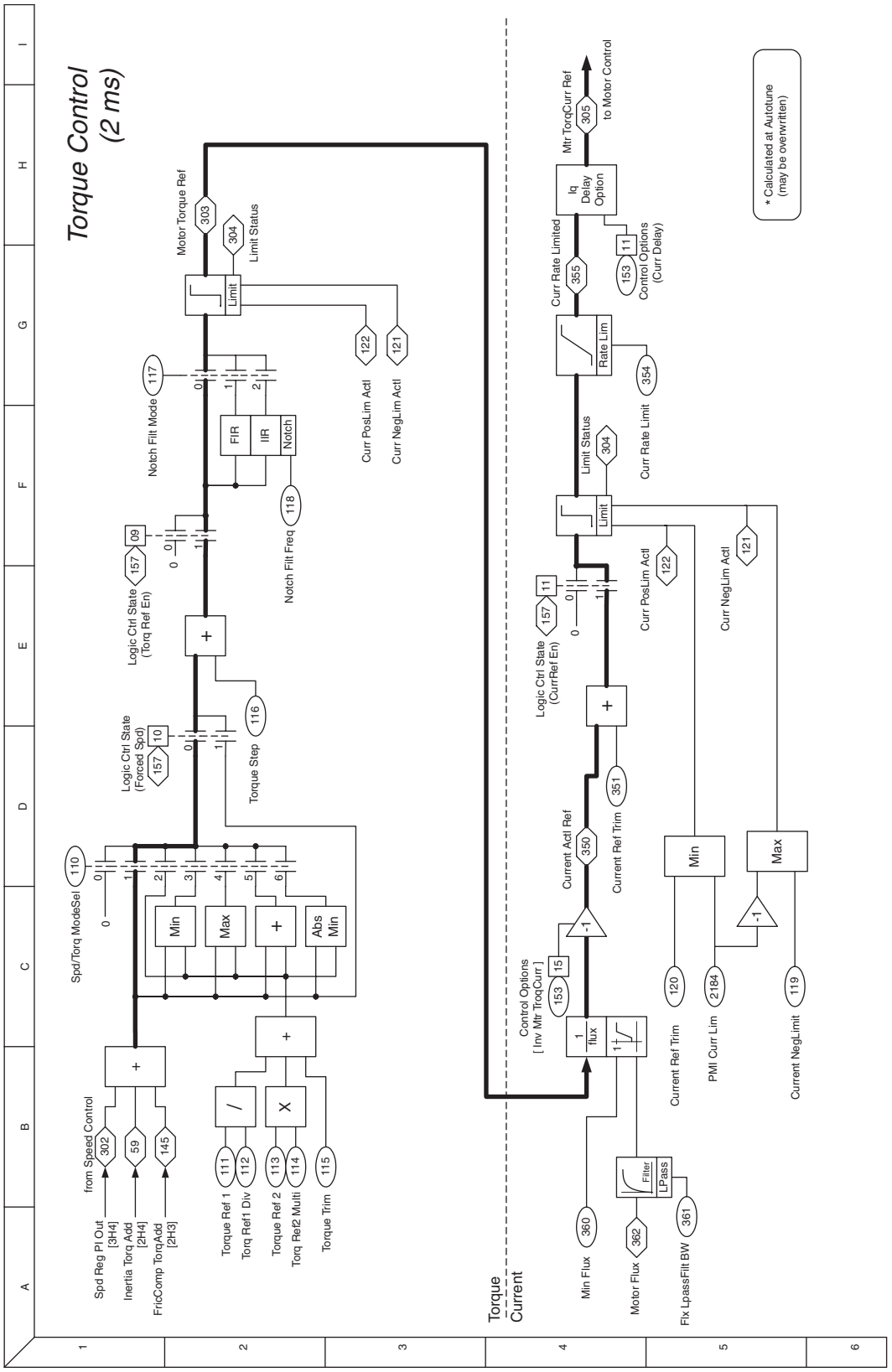

Speed Control - Regulator
(2 ms)
* set param 90 = 0
to manually adjust
param 81 & 82
90 Spd Reg Damping
91 SpdReg P Gain Mx
92 Motor Inertia
2189 Total Inertia
2190
Speed Trim 3
SpdTrim 3 Scale
from Speed Control
- Reference [2H4]
Spd Trim1 SpdRef
Posit Spd Output
from Position
Control [5H3]
Speed Trim 2
STrim2 Filt Gain
SpdTrim2 Filt BW
Logic Ctrl State
(Innta Tst En)
Autotune
Bypass
Atune Spd Ref
Logic Ctrl State
(J Tst FulSpd)
(Spd Reg En)
Logic Ctrl State
(CurrLim Stop)
Limit
Motor Spd Fdbk
from Feedback [9H2]
SReg FB Filt Gain
SReg FB Filt BW
Motor Speed Ref
Speed Error
Spd Err Filt BW
Filtered SpdFdbk
SpdReg AntiBckup
nff
FeedFwd
Servo Lock Gain
ServoLck
Logic Ctrl State
(Spd Reg En)
Spd Reg PI Out
to Torque Control
[8B1]
SRegOut FiltGain
SReg Out Filt BW
Lead Lag
Spd Reg Pos Lim
Spd Reg Neg Lim
SpdReg Integ Out
Spd Reg P Gain
Spd Reg I Gain
Droop
Spd Reg Droop
Control Options
(Jog -NoInteg)
Speed Reg Ctrl
(Integ Hold)
Speed Reg Ctrl
(Integ Reset)
Speed Reg Ctrl
(Preset Sel)
SReg Torq Preset
Motor Torque Ref

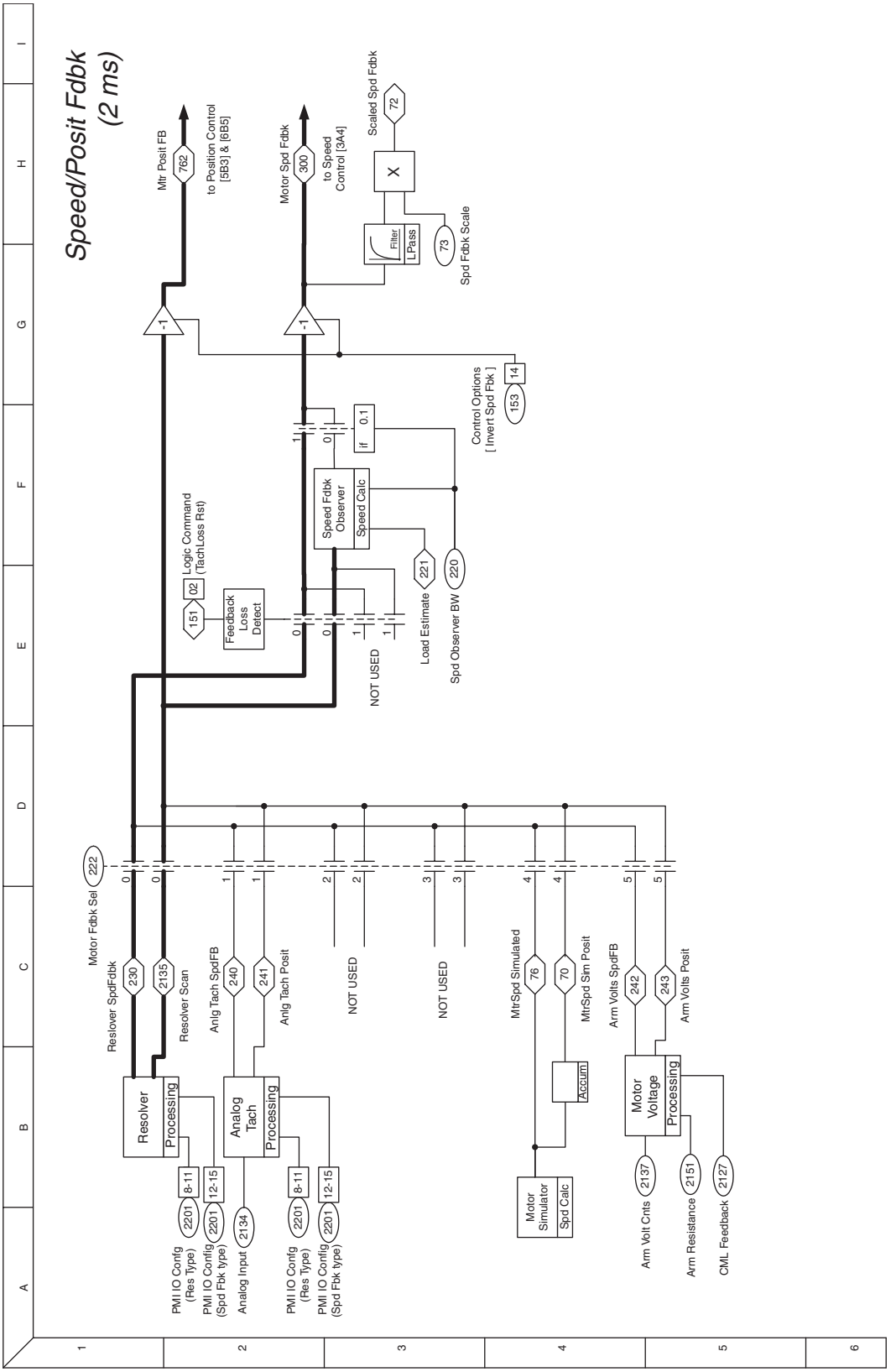

Process Control
(2 ms)
PI Reference
181
PI Feedback
182
PI Lpass Filt BW
184
Logic Status
(Running)
155
1
Logic Command
(ProcsTrim En)
151
12
Logic Ctrl State
(ProcsTrim En)
157
31
PI Command
(Enable)
183
00
OR
PI Prop Gain
186
PI Preload
185
PI Integ Time
187
PI Integ HLim
188
PI Integ LLim
189
PI Integ Output
190
PI High Limit
191
PI Lower Limit
192
PI Output
180
to Speed Control
- Reference [2G5]
Process Control Complimentary Functions
Time Axis Output
201
Time Axis Rate
200
PI Command
(Time Lim En)
183
Logic Command
(Time Axis En)
151
Limit Gen HI Out
207
Limit Gen Lo Out
208
LimGen X axis In
206
LimGen Y axis Mn
205
LimGen Y axis Mx
204
Filter
LPass
P Gain
I Gain
Limit
Time Func Generator
Limit Generator

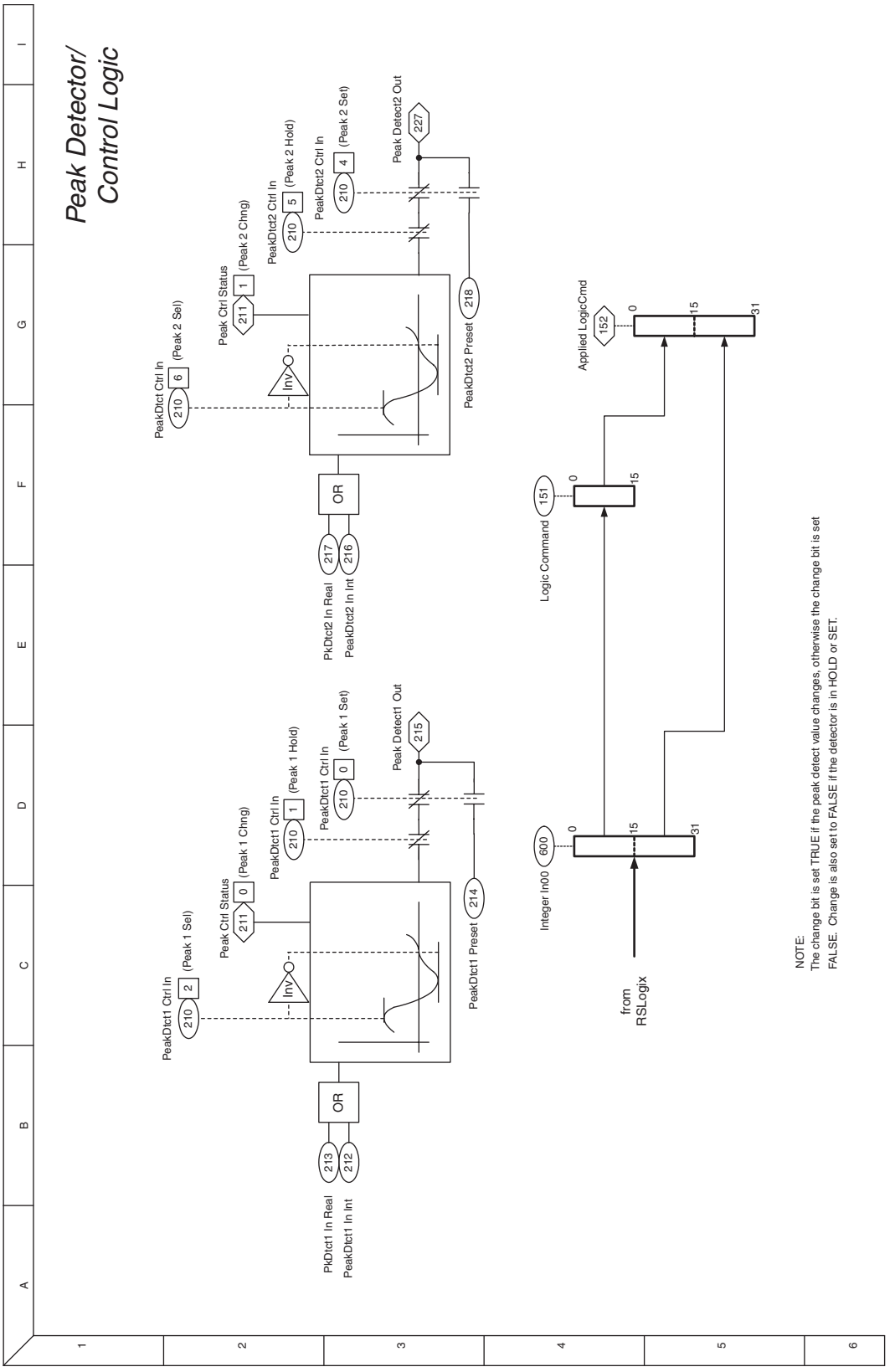

Position Control (4 ms)
Interpolated/Direct
Position Control (ActPosit Rst)
If p740 b6 = 1 and the position regulator is NOT enabled, accumulated values are set to the value of p762. If p740 b6 = 0 and the position regulator is NOT enabled, accumulated values are set to the reference value.
Posit Spd Output
to Speed Control - Regulator [3A2]
Position Status
(X Spd LLim)
(X Spd HLim)
XReg Spd LoLim
XReg Spd HiLim
Position Control (Speed Out En)
Logic Ctrl State (Position En)
PositRef EGR Out
Position Cmmd
X Offst SpdFilt
Filter
LPass
Rate Lim
PositRef EGR Mul
PositRef EGR Div
Posit Offset 1
Posit Offset 2
Posit Offset Spd
Position Control (X Offset Pol)
Position Control (X Offset Ref)
Posit Ref Sel
Interp Position
Interp Speed
Aux Posit Ref
See Point-to-Point Position Control Diagram page 6
Interpolator
CoarsePosit Trgt
Position Control (Interp Rev)
Xsync Status (Sync Pulse)
Synchronize
Interp Spd Scale
Deriv
Accum
Gear Rat
Calib Const
P Gain
I Gain
Droop
Limit
Position Error
PositReg P Gain
PositReg Integ
XReg Integ LoLim
XReg Integ HiLim
PositReg Droop
XReg Integ Out
Act Motor Posit
Posit Actl Load
Posit FB EGR Mul
Posit FB EGR Div
Posit Load Fdbk
Mtr Posit Fdbk
from Speed/Posit Fdbk [9H2]
Link
Logic Ctrl State (Position En)
Position Control (Integ En)
Position Control (Integ Hold)
Applied LogicCmd (Start)
Applied LogicCmd (Position En)
Inv

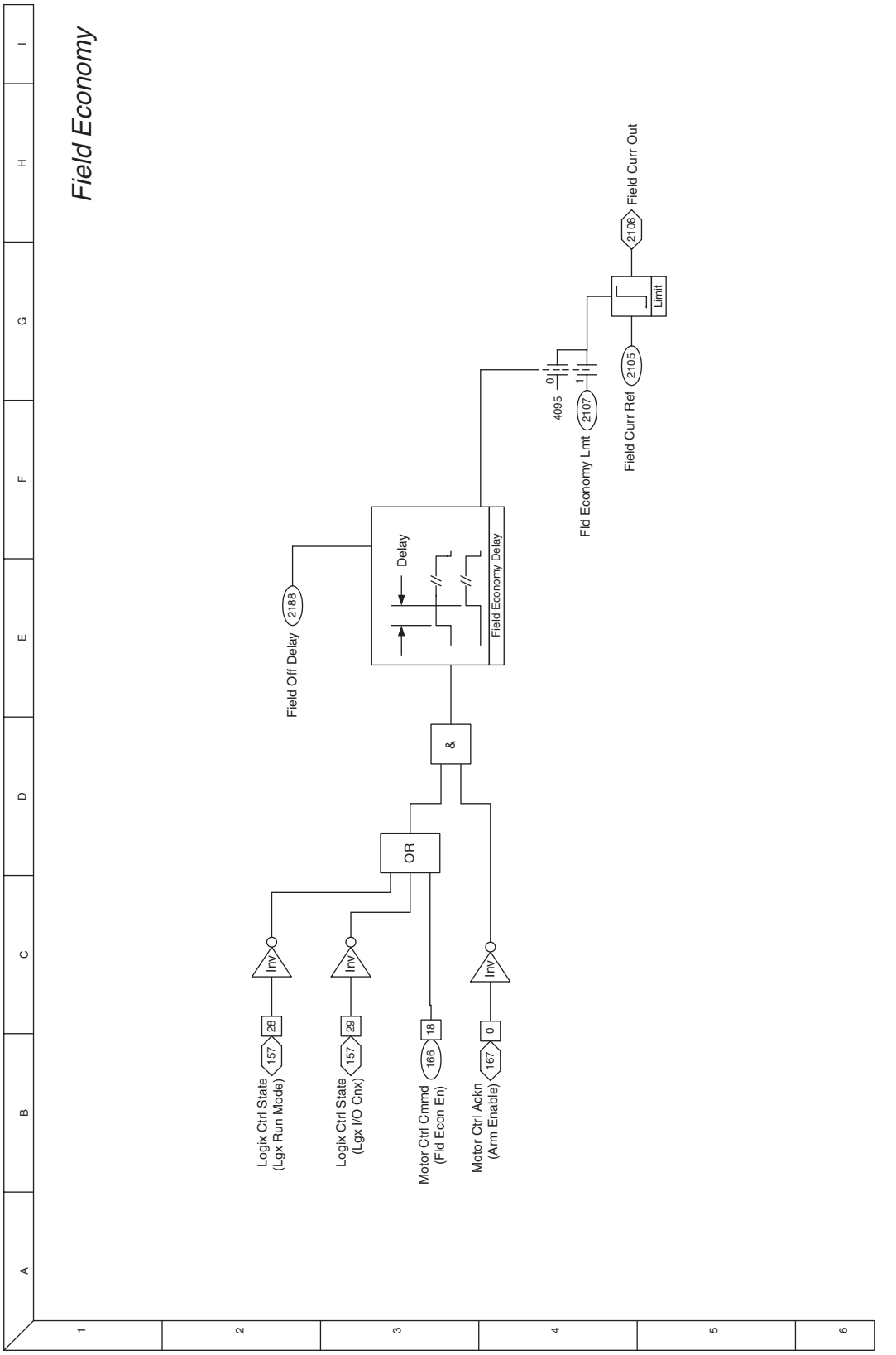

Position Control (4 ms)
Point-To-Point
Position Control (ActPosit Rst)
If p740 b6 = 1 and the position regulator is NOT enabled, accumulated values are set to the value of p762. If p740 b6 = 0 and the position regulator is NOT enabled, accumulated values are set to the reference value.
Posit Spd Output
to Speed Control - Regulator [3A2]
Position Status
(X Spd LLim)
(X Spd HLim)
Position Control (Speed Out En)
Logic Ctrl State (Position En)
Point to Point Position
Limit
Position Error
PositReg P Gain
Pt-Pt Flt BW
Pt-Pt Accel Time
Pt-Pt Decel Time
XReg Spd LoLim
XReg Spd HiLim
Position Cmmd
PositRef EGR Out
X Offset SpdFilt
Accum
Filter
LPass
Rate Lim
Deriv
Gear Rat
PositRef EGR Mul
PositRef EGR Div
Posit Offset 1
Posit Offset 2
Posit Offset Spd
Position Control (X Offset Pol)
Position Control (X Offset Ref)
Logic Ctrl State [Position En]
Posit Ref Sel
See Interpolated/Direct Position Control Diagram Page 5
Reref
Pt-Pt Posit Ref
Position Control (Pt-Pt ReRef)
Logic Ctrl State (Position En)
Mtr Posit Fdbk
Act Motor Posit
from Speed/Posit Fdbk [9H2]


Position Control (4 ms)
Auxiliary
Act Motor Posit
763
Position Control
(X Watch 1 En)
(X Watch 1 Dir)
740
740
16
17
PositDtct1 Stpt
780
Position Watch 1
Position Status
(Posit Watch1)
741
08
Act Motor Posit
763
Position Control
(X Watch 2 En)
(X Watch 2 Dir)
740
740
18
19
PositDtct2 Stpt
781
Position Watch 2
Position Status
(Posit Watch2)
741
09
Position Error
769
In Position Detect
Position Status
(In Position)
741
10
In Posit BW
782
InPosit Dwell
783
Sync Generator
Latch
Latch
Latch
One Scan Delay
One Scan Delay
0.5ms
0.5ms * 2n+7n
Sync Pulse Generator
Xsync Out 1
789
Xsync Out 2
791
Xsync Out 2 Dly
792
Xsync Out 3
794
Xsync Out 3 Dly
795
Xsync Status
(Sync Pulse)
00
786
Xsync In 1
788
Xsync In 2
790
Xsync In 3
793
SL System Time
317
0.5ms
Xsync Gen Period
787
A
B
C
D
E
F
G
H
I
1
2
3
4
5
6


Torque Control
(2 ms)
Spd/Torq ModeSel
Spd Reg PI Out [3H4]
Inertia Torq Add [2H4]
FricComp TorqAdd [2H3]
from Speed Control
Torque Ref 1
Torq Ref1 Div
Torque Ref 2
Torq Ref2 Multi
Torque Trim
Logic Ctrl State (Forced Spd)
Logic Ctrl State (Torq Ref En)
Torque Step
Notch Filt Mode
Notch Filt Freq
Motor Torque Ref
Limit Status
Curr PosLim Actl
Curr NegLim Actl
Logic Ctrl State (CurrRef En)
Current Actl Ref
Current Ref Trim
Control Options [Inv Mtr TrqCurr]
Min Flux
Motor Flux
Fix LpassFilt BW
Current Ref Trim
PMI Curr Lim
Current NegLimit
Curr Rate Limited
Curr Rate Limit
Control Options (Curr Delay)
Mtr TorqCurr Ref
to Motor Control
* Calculated at Autotune (may be overwritten)
Torque
Current


Speed/Posit Fdbk
(2 ms)
Mtr Posit FB
762
to Position Control
[5B3] & [6B5]
Motor Spd Fdbk
300
to Speed
Control [3A4]
Scaled Spd Fdbk
72
X
Filter
LPass
73
Spd Fdbk Scale
-1
-1
Control Options
[Invert Spd Fdbk]
14
153
if 0.1
Speed Fdbk
Observer
Speed Calc
Logic Command
(TachLoss Rst)
02
151
Feedback
Loss
Detect
Load Estimate
221
Spd Observer BW
220
NOT USED
Motor Fdbk Sel
222
Reslover SpdFdbk
230
Resolver Scan
2135
Anlg Tach SpdFB
240
Anlg Tach Posit
241
NOT USED
NOT USED
MtrSpd Simulated
76
MtrSpd Sim Posit
70
Arm Volts SpdFB
242
Arm Volts Posit
243
Resolver
Processing
Analog
Tach
Processing
Accum
Motor
Voltage
Processing
Motor
Simulator
Spd Calc
8-11
12-15
2201
2201
PMI IO Config
(Res Type)
PMI IO Config
(Spd Fbk type)
2134
Analog Input
2201
2201
PMI IO Config
(Res Type)
PMI IO Config
(Spd Fbk type)
2137
Arm Volt Cnts
2151
Arm Resistance
2127
CML Feedback


Peak Detector/
Control Logic
PeakDtct1 Ctrl In
(Peak 1 Sel)
2
210
Peak Ctrl Status
0
(Peak 1 Chng)
211
PeakDtct1 Ctrl In
1
(Peak 1 Hold)
210
PeakDtct1 Ctrl In
0
(Peak 1 Set)
210
Peak Detect1 Out
215
Inv
OR
213
212
PkDtct1 In Real
PeakDtct1 In Int
PeakDtct1 Preset
214
PeakDtct2 Ctrl In
(Peak 2 Sel)
6
210
Peak Ctrl Status
1
(Peak 2 Chng)
211
PeakDtct2 Ctrl In
5
(Peak 2 Hold)
210
PeakDtct2 Ctrl In
4
(Peak 2 Set)
210
Peak Detect2 Out
227
Inv
OR
217
216
PkDtct2 In Real
PeakDtct2 In Int
PeakDtct2 Preset
218
Integer In00
600
0
15
31
from
RSLogix
Logic Command
151
0
15
Applied LogicCmd
152
0
15
31
NOTE:
The change bit is set TRUE if the peak detect value changes, otherwise the change bit is set
FALSE. Change is also set to FALSE if the detector is in HOLD or SET.


Field Economy
Logix Ctrl State (Lgx Run Mode)
157
28
Logix Ctrl State (Lgx I/O Cnx)
157
29
Motor Ctrl Cmmd (Fld Econ En)
166
18
Motor Ctrl Ackn (Arm Enable)
167
0
Inv
Inv
Inv
OR
&
Field Off Delay
2188
Delay
Field Economy Delay
4095
0
1
Fld Economy Lmt
2107
Field Curr Ref
2105
Limit
Field Curr Out
2108

Parameters

To configure a Drive module to operate in a specific way, drive parameters may have to be set. Three types of parameters exist:

- **ENUM Parameters**
  These parameters allow a selection from 2 or more items
- **Bit Parameters**
  These parameters have individual bits associated with features or conditions. If the bit is 0, the feature is off or the condition is false. If the bit is 1, the feature is on or the condition is true.
- **Numeric Parameters**
  These parameters have a single numeric value (i.e. 0.1 Volts).

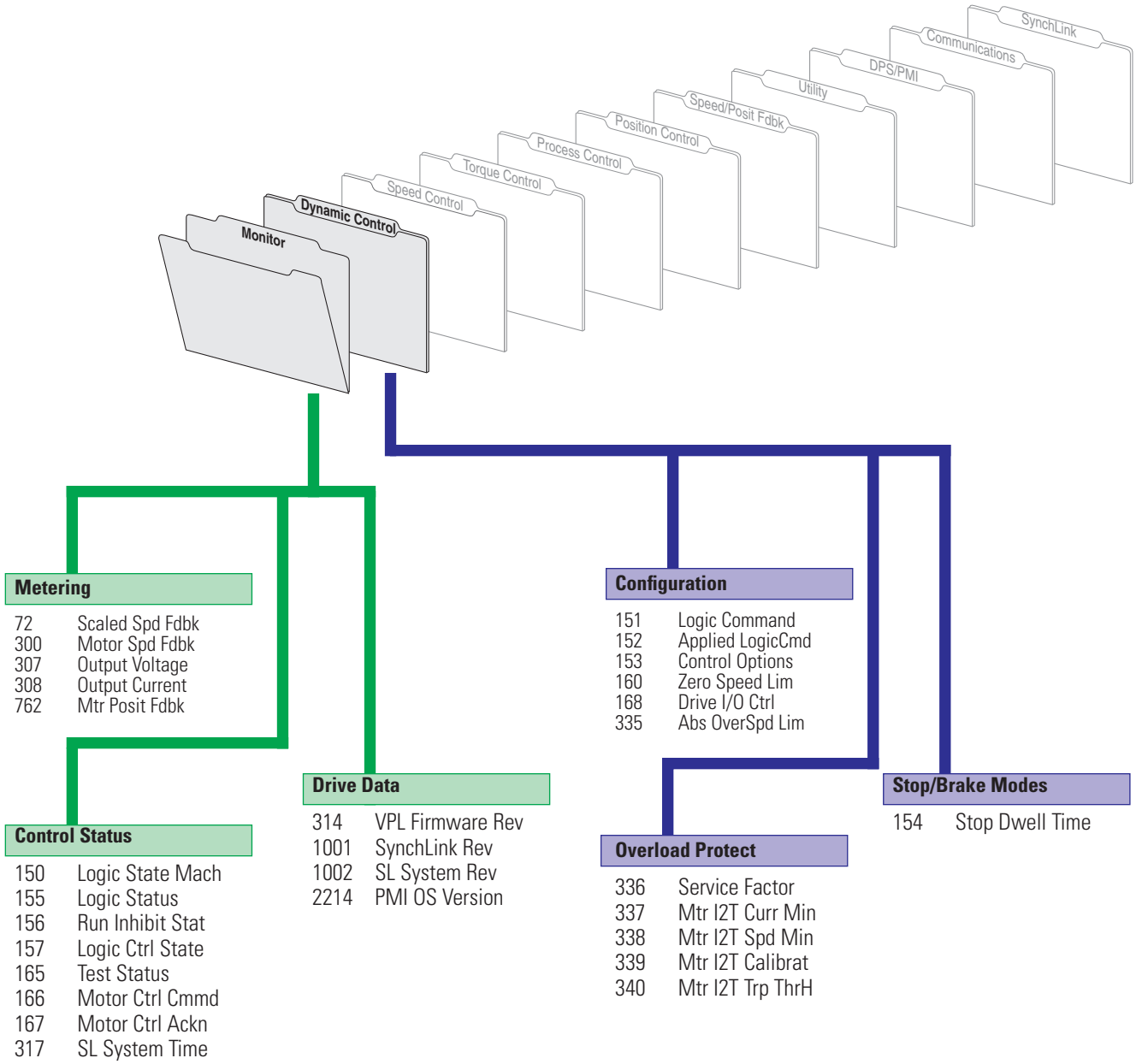
The example on the following page shows how each parameter type is presented in this manual.

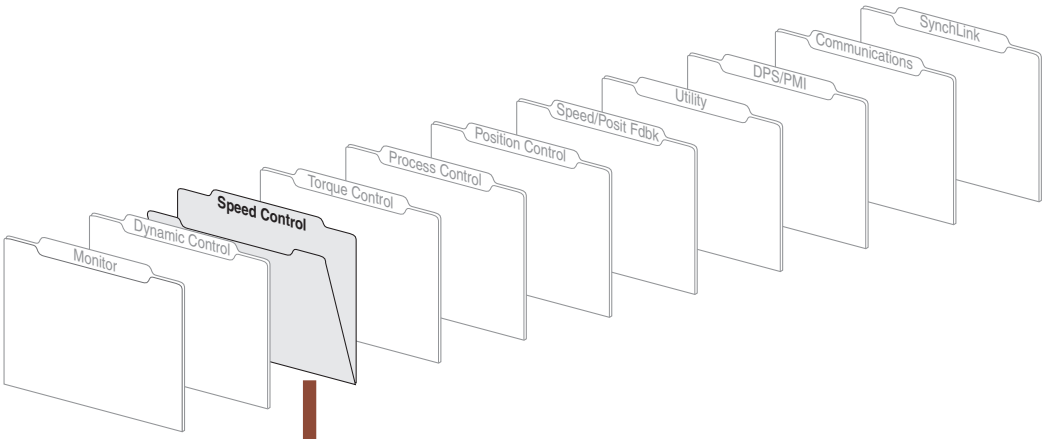
❶	❷	❸		
No.	**Name** **Description**	**Values**		
16	**Speed Ref Sel** Enter or write a value to select the source of the speed reference to the drive.	Default:	Val 1	Spd Ref 1
		Options:	Val 0 Val 1 Val 2	Zero Speed Spd Ref 1 Spd Ref 2
		File: Group:	Speed Control Reference	
80	**Speed Reg Ctrl** Enter or write a value to configure the speed regulator integrator.	Default:	0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4	Reserved Preset Sel Integ Hold Integ Reset
		File: Group:	Speed Control Regulator	
11	**Spd Ref1 Divide** Speed Ref 1 is divided by this number. Use this parameter to scale the value of Speed Ref 1.	Default: Min: Max: Type: File: Group:	1 -2200000000 2200000000 Non-Linkable Read-Write Floating Point Speed Control Reference	

No.	**Description**		
❶	No. - Parameter Number. = Stop drive before changing this parameter.		
❷	Name - Parameter name as is appears in DriveExecutive software. Description - Brief description of parameter function.		
❸	Values - Defines the various operating characteristics of the parameter. Three types exist		
	ENUM	Default: Options: File: Group:	Lists the value assigned at the factory. Displays the selections available. Lists the major parameter file category. Lists the parameter group within the file.
	Bit	Default: Options: File: Group:	Lists the bit pattern assigned at the factory. Displays the selections available. Lists the major parameter file category. Lists the parameter group within the file.
	Numeric	Default: Min: Max: Type: File: Group	Lists the value assigned at the factory. Displays lowest possible setting. Displays highest possible setting. Indicates if parameter is linkable, read-write, read-only, and data type (i.e. integer, floating point, boolean). Lists the major parameter file category. Lists the parameter group within the file.

How Parameters are Organized

DriveExecutive programming software displays parameters in "Linear List" or "File Group Parameter" format. Viewing the parameters in "File Group Parameter" format simplifies programming by grouping parameters that are used for similar functions. There are eleven files. Each file is divided into multiple groups of parameters.





Reference

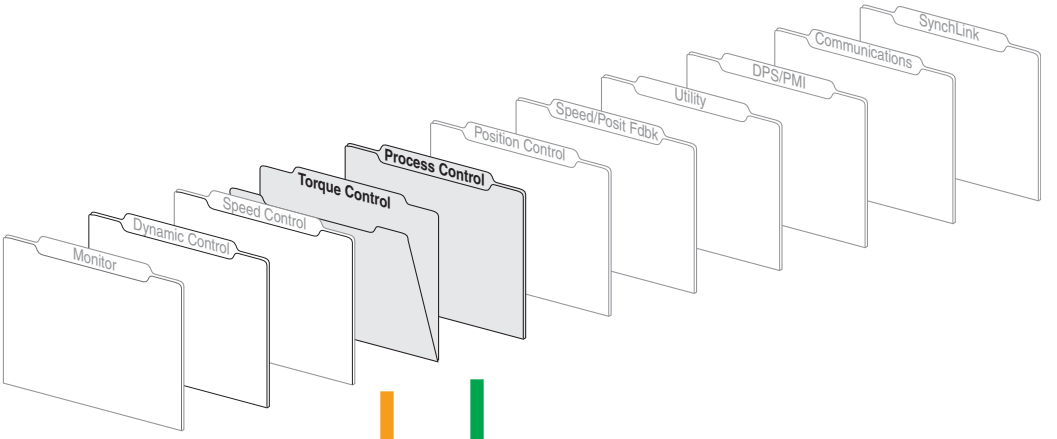
10	Speed Ref 1
11	Spd Ref1 Divide
12	Speed Ref 2
13	Spd Ref2 Multi
14	Speed Ref 4
15	Speed Ref 5
16	Speed Ref Sel
17	Jog Speed 1
18	Jog Speed 2
21	Speed Trim 1
30	Rev Speed Limit
31	Fwd Speed Limit
32	Accel Time
33	Decel Time
34	S Curve Time
35	SpdRef Filt Gain
36	SpdRef Filt BW
37	Spd Ref Bypass
38	Speed Ref Scale
40	Selected Spd Ref
41	Limited Spd Ref
42	Ramped Spd Ref
43	S Curve Spd Ref
44	Filtered Spd Ref
45	Delayed Spd Ref
46	Scaled Spd Ref
47	Spd Trim1 SpdRef
56	Inertia SpeedRef
57	InertiaAccelGain
58	InertiaDecelGain
59	Inertia Torq Add
61	Virt Encoder PPR
62	Virt Encdr Posit
63	Virt Encdr Dlyed
140	FricComp Spd Ref
141	FricComp Setup
142	FricComp Stick
143	FricComp Slip
144	FricComp Rated
145	FricComp TorqAdd

Regulator

19	Atune Spd Ref
22	Speed Trim 2
23	Speed Trim 3
24	SpdTrim 3 Scale
25	STrim2 Filt Gain
26	SpdTrim2 Filt BW
30	Rev Speed Limit
31	Fwd Speed Limit
47	Spd Trim1 SpdRef
71	Filtered SpdFdbk
80	Speed Reg Ctrl
81	Spd Reg P Gain
82	Spd Reg I Gain
84	SpdReg AntiBckup
85	Servo Lock Gain
86	Spd Reg Droop
87	SReg Torq Preset
89	Spd Err Filt BW
90	Spd Reg BW
91	Spd Reg Damping
92	SpdReg P Gain Mx
93	SRegFB Filt Gain
94	SReg FB Filt BW
95	SRegOut FiltGain
96	SReg Out Filt BW
100	Speed Error
101	SpdReg Integ Out
102	Spd Reg Pos Lim
103	Spd Reg Neg Lim
301	Motor Speed Ref
2185	Hot Field Curr
2187	Field Loss Amps
300	Motor Spd Fdbk
302	Spd Reg PI Out
2189	Motor Inertia
2190	Total Inertia

Setpoint Monitor

171	Set Speed Lim
172	Setpt 1 Data
173	Setpt1 TripPoint
174	Setpt 1 Limit
175	Setpt 2 Data
176	Setpt2 TripPoint
177	Setpt 2 Limit



Current

119	Current NegLimit
120	Current PosLimit
121	Curr NegLim Actl
122	Curr PosLim Actl
305	Mtr TorqCurr Ref
350	Current Actl Ref
351	Current Ref Trim
354	Curr Rate Limit
355	Curr RateLimited
360	Min Flux
361	Flux LpassFlt BW
362	Motor Flux
2180	Motor NP RPM

Torque

59	Inertia Torq Add
110	Spd/Torq ModeSel
111	Torque Ref 1
112	Torq Ref1 Div
113	Torque Ref 2
114	Torq Ref2 Mult
115	Torque Trim
116	Torque Step
117	Notch Filt Mode
118	Notch Filt Freq
121	Curr NegLim Actl
122	Curr PosLim Actl
145	FricComp TorqAdd
302	Spd Reg PI Out
303	Motor Torque Ref

Limit Generator

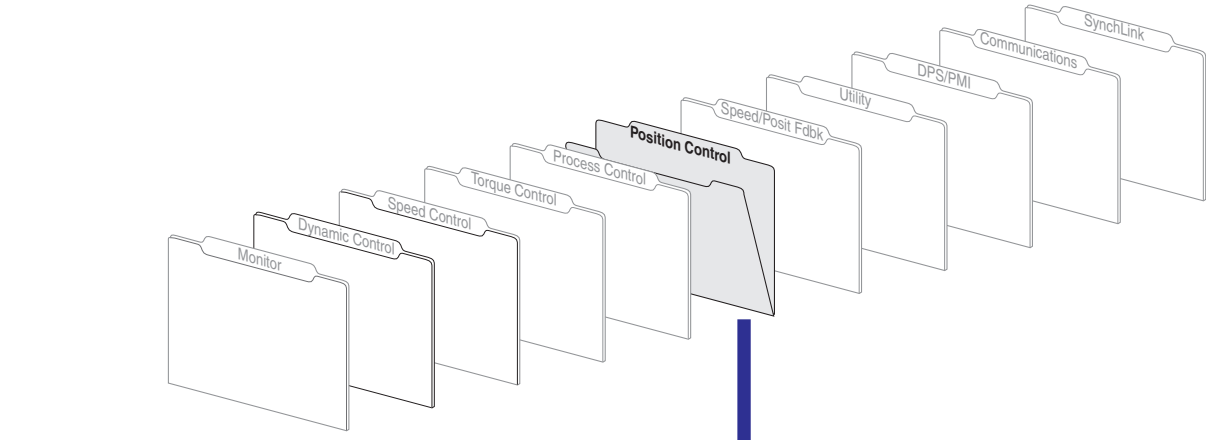
200	Time Axis Rate
201	Time Axis Output
204	LimGen Y axis Mx
205	LimGen Y axis Mn
206	LimGen X axis In
207	Limit Gen Hi Out
208	Limit Gen Lo Out

Process Config

181	PI Reference
182	PI Feedback
183	PI Command

Regulator

180	PI Output
184	PI Lpass Filt BW
185	PI Preload
186	PI Prop Gain
187	PI Integ Time
188	PI Integ HLim
189	PI Integ LLim
190	PI Integ Output
191	PI High Limit
192	PI Lower Limit



Interp/Direct

318	Posit Spd Output
743	Aux Posit Ref
744	PositRef EGR Out
745	PositRef EGR Mul
746	PositRef EGR Div
747	Position Cmmd
748	CoarsePosit Trgt
749	Interp Position
750	Interp Speed
751	Interp Spd Scale
753	Posit Offset 1
754	Posit Offset 2
755	Posit Offset Spd
756	X Offst SpdFilt
762	Mtr Posit Fdbk
763	Act Motor Posit
764	Posit Load Fdbk
765	Posit Actl Load
766	Posit FB EGR Mul
767	Posit FB EGR Div
768	PositReg P Gain
769	Position Error
770	PositReg Integ
771	PositReg Droop
772	XReg Integ LoLim
773	XReg Integ HiLim
774	XReg Integ Out
775	XReg Spd LoLim
776	XReg Spd HiLim

Point to Point

318	Posit Spd Output
744	PositRef EGR Out
745	PositRef EGR Mul
746	PositRef EGR Div
747	Position Cmmd
753	Posit Offset 1
754	Posit Offset 2
755	Posit Offset Spd
756	X Offst SpdFilt
758	Pt-Pt Posit Ref
759	Pt-Pt Accel Time
760	Pt-Pt Decel Time
761	Pt-Pt Filt BW
762	Mtr Posit Fdbk
763	Act Motor Posit
768	PositReg P Gain
769	Position Error
775	XReg Spd LoLim
776	XReg Spd HiLim

Position Config

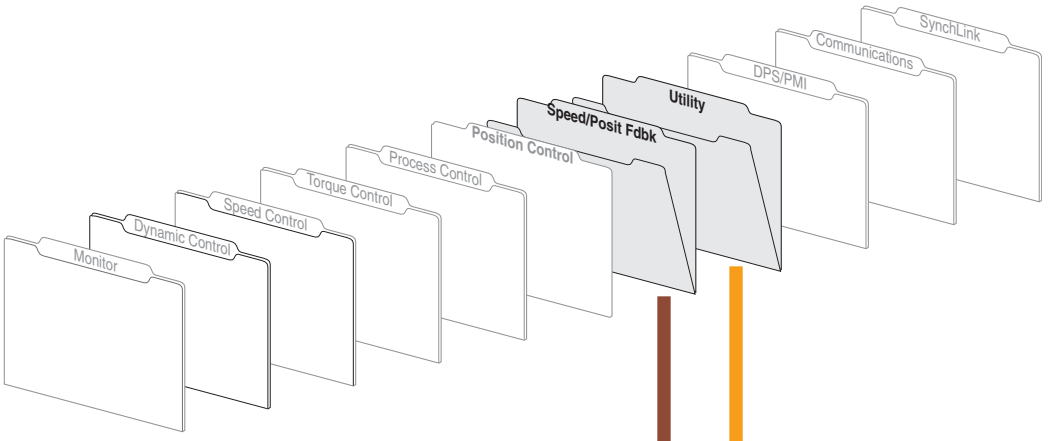
740	Position Control
741	Position Status
742	Posit Ref Sel

Sync Generator

317	SL System Time
786	Xsync Status
787	Xsync Gen Period
788	Xsync In 1
789	Xsync Out 1
790	Xsync In 2
791	Xsync Out 2
792	Xsync Out 2 Dly
793	Xsync In 3
794	Xsync Out 3
795	Xsync Out 3 Dly

Posit Detection

763	Act Motor Posit
769	Position Error
780	PositDetct1 Stpt
781	PositDetct2 Stpt
782	In Posit BW
783	In Posit Dwell



Armature Volts

242	Arm Volts Spd FB
243	Arm Volts Posit

Calculated Fdbk

70	MtrSpd Sim Posit
76	MtrSpd Simulated

Resolver

230	Resolver SpdFdbk
231	Resolver PositFB
2135	Res Scan Posit

Feedback Config

72	Scaled Spd Fdbk
73	Spd Fdbk Scale
219	Spd Obs Trq Gain
220	Spd Observer BW
221	Load Estimate
222	Motor Fdbk Sel
300	Motor Spd Fdbk

Diagnostics

167	Motor Ctrl Ackn
169	Drive I/O Status
304	Limit Status
316	SynchLink Status
320	Exception Event1
321	Exception Event2
323	Fault Status 1
324	Fault Status 2
326	Alarm Status 1
327	Alarm Status 2
1229	SL Error Status
1230	SL CRC Err Accum
1231	SL CRC Error
1232	SL BOF Err Accum
1233	SL BOF Error
1234	SL CRC Err Limit
1235	SL BOF Err Limit
2122	MC Faults
2123	MC Warnings
2124	Pwr DeviceStatus
2125	Interlock Code

Fault/Alm Config

369	SL CommLoss Cnfg
370	SL CommLoss Data
371	Mtr OL Trip Cnfg
372	Mtr OL Pend Cnfg
373	Motor Stall Time
374	Motor Stall Cnfg
381	PMI Warning Cnfg
382	Lgx OutOfRunCnfg
383	Lgx Timeout Cnfg
384	Lgx Closed Cnfg
385	Lgx LinkChngCnfg
386	Lgx CommLossData
387	SL MultErr Cnfg

Peak Detection

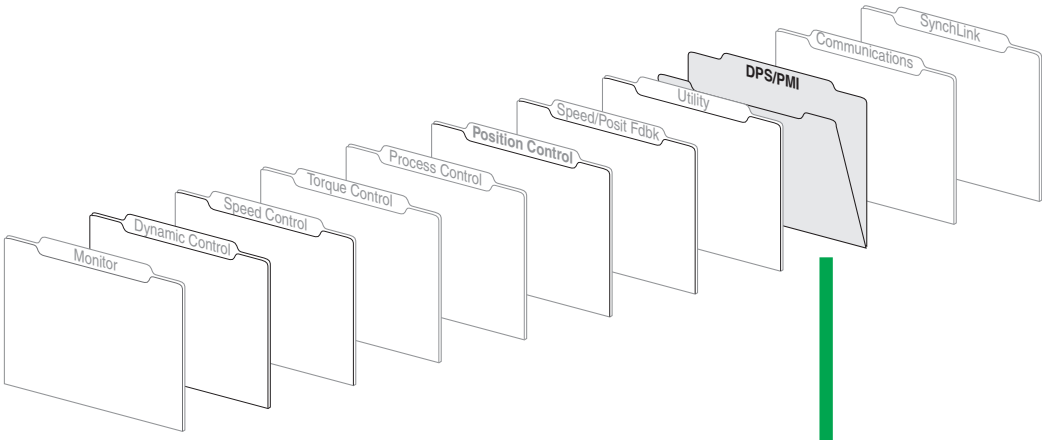
210	PeakDtct Ctrl In
211	Peak Ctrl Status
212	PeakDtct1 In Int
213	PkDtct1 In Real
214	PeakDtct1 Preset
215	PeakDetect1 Out
216	PeakDtct2 In Int
217	PkDtct2 In Real
218	PeakDtct2 Preset
227	PeakDetect2 Out

Test Points

50	Spd Ref TP Sel
51	Spd Ref TP RPM
52	Spd Ref TP Data
77	Spd Fdbk TP Sel
78	Spd Fdbk TP RPM
79	Spd Fdbk TP Data
98	Spd Gain TP Sel
99	Spd Gain TP Data
108	Spd Reg TP Sel
109	Spd Reg TP Data
130	Torq Ref TP Sel
131	Torq Ref TP Data
161	Logic TP Sel
162	Logic TP Data
163	Stop Oper TP Sel
164	StopOper TP Data
193	PI TP Sel
194	PI TP Data
329	Fault TP Sel
330	Fault TP Data
363	Curr Ref TP Sel
364	Curr Ref TP Data
777	Posit TP Select
778	PositTP Data Int
779	PositTP DataReal
1226	SL Comm TP Sel
1227	SL Comm TP Data

User Selections

396	User Data 1
397	User Data 2
398	User Data 3
399	User Data 4



Comm Status

2000	DM Comm PortStat
2001	DM Good Msg Cnt
2002	DM CRC Error Cnt
2003	DM Frmt ErrorCnt
2004	PMIComm PortStat
2005	PMI Good Msg Cnt
2006	PMI CRC ErrorCnt
2007	PMIFrmt ErrorCnt
2008	DM Link Status
2009	DM Tx Msg Count
2010	DM Sync WarngCnt
2011	DM Bad Msg Cnt
2012	DM Sync Count
2013	PMI Gain Count
2014	DM Tx Time
2015	DM Tx Time Avail

Inputs & Outputs

2040	Rail Port 0 Ch 0
2041	Rail Port 0 Ch 1
2042	Rail Port 0 Ch 2
2043	Rail Port 0 Ch 3
2044	Rail Port 0 Flt
2045	RailPrt 0FltCnt
2046	Rail Port 1 Ch 0
2047	Rail Port 1 Ch 1
2048	Rail Port 1 Ch 2
2049	Rail Port 1 Ch 3
2050	Rail Port 1 Flt
2051	RailPrt 1FltCnt
2080	Meter Port1 Sel
2081	MeterP1 +10v Val
2082	MeterP1 -10v Val
2083	Meter Port2 Sel
2084	MeterP2 +10v Val
2085	MeterP2 -10v Val
2086	Meter Port3 Sel
2087	MeterP3 +10v Val
2088	MeterP3 -10v Val
2089	Meter Port4 Sel
2090	MeterP4 +10v Val
2091	MeterP4 -10v Val

Commands

2100	Drive Ctrl Word
2102	Arm Test Angle
2103	Arm Curr Ref
2104	Field Test Angle
2105	Field Curr Ref
2106	PMI D/A Output

Feedback

307	Output Voltage
308	Output Current
2122	MC Faults
2123	MC Warnings
2124	Pwr DeviceStatus
2125	Interlock Code
2126	AC Line Volt FB
2127	CML Feedback
2130	Counter EMF
2131	FML Feedback
2132	Field Amps Fdbk
2133	Field Volt Fdbk
2134	User Anlg Input
2135	Res Scan Posit
2136	Res Strobe Posit
2137	Arm Volt FB Cnts
2149	NV Faults

Regulator Config

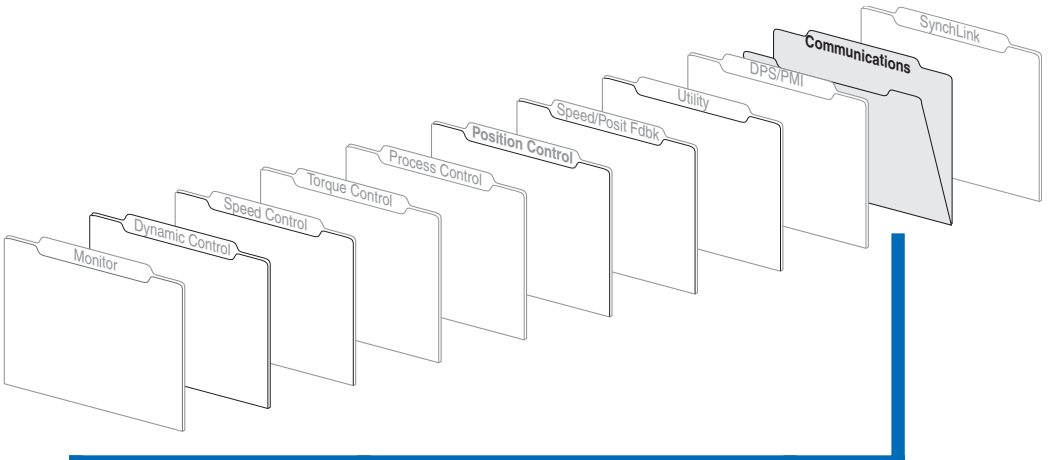
2150	CML Crossovr Frq
2151	Arm Resistance
2152	Arm TimeConstant
2153	Arm ContCurr Lvl
2154	FML Crossovr Frq
2155	Field Resistance
2156	Fld TimeConstant
2157	SCR Diag Gain
2158	SCR Decay Rate
2159	SCR Deadband

Motor Data

2160	SCR Trip Point
2161	Resolver Gain
2162	Resolver Balance
2163	CML Ref Rate
2180	Motor NP RPM
2181	Overspd Trip Pt
2182	Motor NP FLA
2183	Motor NP Volts
2184	PMI Curr Lim
2186	Min Field Curr
2187	Field Loss Amps
2188	Field Off Delay
2189	Motor Inertia
2190	Total Inertia

Drive Config

2200	PMI Drive Config
2201	PMI I/O Config
2202	AC LineVolt(RMS)
2203	Out Volt Rating
2204	Out Curr Rating
2205	Curr Xfmr Ratio
2206	Field AC In Volt
2208	Anlg Tach Volts
2209	Ph Xfmr In Volt
2213	Pwr Config Code
2214	PMI OS Version



Commands

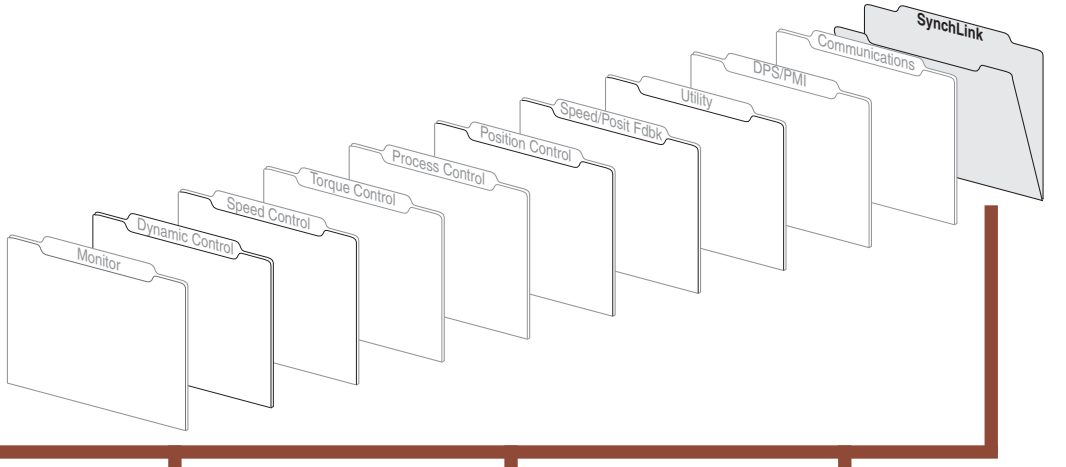
664	Lgx Comm Format

Logix Inputs

600	Integer In00
601	Real In00
602	Integer In01
603	Real In01
604	Integer In02
605	Real In02
606	Integer In03
607	Real In03
608	Integer In04
609	Real In04
610	Integer In05
611	Real In05
612	Integer In06
613	Real In06
614	Integer In07
615	Real In07
616	Integer In08
617	Real In08
618	Integer In09
619	Real In09
620	Integer In10
621	Real In10
622	Integer In11
623	Real In11
624	Integer In12
625	Real In12
626	Integer In13
627	Real In13
628	Integer In14
629	Real In14
630	Integer In15
631	Real In15

Logix Outputs

632	Integer Out00
633	Real Out00
634	Integer Out01
635	Real Out01
636	Integer Out02
637	Real Out02
638	Integer Out03
639	Real Out03
640	Integer Out04
641	Real Out04
642	Integer Out05
643	Real Out05
644	Integer Out06
645	Real Out06
646	Integer Out07
647	Real Out07
648	Integer Out08
649	Real Out08
650	Integer Out09
651	Real Out09
652	Integer Out10
653	Real Out10
654	Integer Out11
655	Real Out11
656	Integer Out12
657	Real Out12
658	Integer Out13
659	Real Out13
660	Integer Out14
661	Real Out14
662	Integer Out15
663	Real Out15



SynchLink Config

1000	SL Node Cnfg
1010	SL Rx Comm Frmt
1011	SL Rx DirectSel0
1012	SL Rx DirectSel1
1013	SL Rx DirectSel2
1014	SL Rx DirectSel3
1020	SL TxComm Format
1021	SL Tx DirectSel0
1022	SL Tx DirectSel1
1023	SL Tx DirectSel2
1024	SL Tx DirectSel3

Multiplier

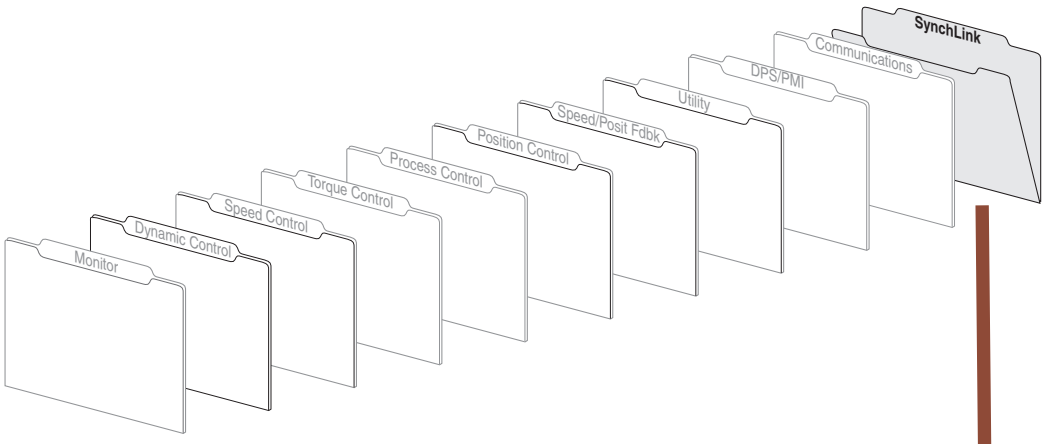
1030	SL Mult A In
1031	SL Mult B In
1032	SL Mult Base
1033	SL Mult Out
1034	SL Mult State
1035	Real to Int In
1036	Real to Int Out

Event Data

1040	SL Rcv Events
1041	SL Rx P0 Regis
1042	SL Rx P1 Regis
1043	SL Rx D0 Latch
1044	SL Rx D1 Latch
1045	SL Rx D2 Latch
1046	SL Rx D3 Latch
1047	SL Rx Opt0 Regis
1048	SL Rx Opt1 Regis

Direct Data

1054	SL Dir Int Rx0
1055	SL Dir Real Rx0
1056	SL Dir Int Rx1
1057	SL Dir Real Rx1
1058	SL Dir Int Rx2
1059	SL Dir Real Rx2
1060	SL Dir Int Rx3
1061	SL Dir Real Rx3
1140	Tx Dir Data Type
1141	SL Dir Int Tx0
1142	SL Dir Real Tx0
1143	SL Dir Int Tx1
1144	SL Dir Real Tx1
1145	SL Dir Int Tx2
1146	SL Dir Real Tx2
1147	SL Dir Int Tx3
1148	SL Dir Real Tx3



Buffered Data In

1073	SL Buf Int Rx00
1074	SL Buf Real Rx00
1075	SL Buf Int Rx01
1076	SL Buf Real Rx01
1077	SL Buf Int Rx02
1078	SL Buf Real Rx02
1079	SL Buf Int Rx03
1080	SL Buf Real Rx03
1081	SL Buf Int Rx04
1082	SL Buf Real Rx04
1083	SL Buf Int Rx05
1084	SL Buf Real Rx05
1085	SL Buf Int Rx06
1086	SL Buf Real Rx06
1087	SL Buf Int Rx07
1088	SL Buf Real Rx07
1089	SL Buf Int Rx08
1090	SL Buf Real Rx08
1091	SL Buf Int Rx09
1092	SL Buf Real Rx09
1093	SL Buf Int Rx10
1094	SL Buf Real Rx10
1095	SL Buf Int Rx11
1096	SL Buf Real Rx11
1097	SL Buf Int Rx12
1098	SL Buf Real Rx12
1099	SL Buf Int Rx13
1100	SL Buf Real Rx13
1101	SL Buf Int Rx14
1102	SL Buf Real Rx14
1103	SL Buf Int Rx15
1104	SL Buf Real Rx15
1105	SL Buf Int Rx16
1106	SL Buf Real Rx16
1107	SL Buf Int Rx17
1108	SL Buf Real Rx17
1109	SL Buf Int Rx18
1110	SL Buf Real Rx18
1111	SL Buf Int Rx19
1112	SL Buf Real Rx19
1113	SL Buf Int Rx20
1114	SL Buf Real Rx20
1115	SL Buf Int Rx21
1116	SL Buf Real Rx21
1117	SL Buf Int Rx22
1118	SL Buf Real Rx22
1119	SL Buf Int Rx23
1120	SL Buf Real Rx23
1121	SL Buf Int Rx24
1122	SL Buf Real Rx24
1123	SL Buf Int Rx25
1124	SL Buf Real Rx25
1125	SL Buf Int Rx26
1126	SL Buf Real Rx26
1127	SL Buf Int Rx27
1128	SL Buf Real Rx27
1129	SL Buf Int Rx28
1130	SL Buf Real Rx28
1131	SL Buf Int Rx29

Buffered DataOut

1160	Tx Buf Data Type
1161	SL Buf Int Tx00
1162	SL Buf Real Tx00
1163	SL Buf Int Tx01
1164	SL Buf Real Tx01
1165	SL Buf Int Tx02
1166	SL Buf Real Tx02
1167	SL Buf Int Tx03
1168	SL Buf Real Tx03
1169	SL Buf Int Tx04
1170	SL Buf Real Tx04
1171	SL Buf Int Tx05
1172	SL Buf Real Tx05
1173	SL Buf Int Tx06
1174	SL Buf Real Tx06
1175	SL Buf Int Tx07
1176	SL Buf Real Tx07
1177	SL Buf Int Tx08
1178	SL Buf Real Tx08
1179	SL Buf Int Tx09
1180	SL Buf Real Tx09
1181	SL Buf Int Tx10
1182	SL Buf Real Tx10
1183	SL Buf Int Tx11
1184	SL Buf Real Tx11
1185	SL Buf Int Tx12
1186	SL Buf Real Tx12
1187	SL Buf Int Tx13
1188	SL Buf Real Tx13
1189	SL Buf Int Tx14
1190	SL Buf Real Tx14
1191	SL Buf Int Tx15
1192	SL Buf Real Tx15
1193	SL Buf Int Tx16
1194	SL Buf Real Tx16
1195	SL Buf Int Tx17
1196	SL Buf Real Tx17
1197	SL Buf Int Tx18
1198	SL Buf Real Tx18
1199	SL Buf Int Tx19
1200	SL Buf Real Tx19
1201	SL Buf Int Tx20
1202	SL Buf Real Tx20
1203	SL Buf Int Tx21
1204	SL Buf Real Tx21
1205	SL Buf Int Tx22
1206	SL Buf Real Tx22
1207	SL Buf Int Tx23
1208	SL Buf Real Tx23
1209	SL Buf Int Tx24
1210	SL Buf Real Tx24
1211	SL Buf Int Tx25
1212	SL Buf Real Tx25
1213	SL Buf Int Tx26
1214	SL Buf Real Tx26
1215	SL Buf Int Tx27
1216	SL Buf Real Tx27
1217	SL Buf Int Tx28
1218	SL Buf Real Tx28
1219	SL Buf Int Tx29
1220	SL Buf Real Tx29

Parameter Data In Linear List Format

No.	Name Description	Values		
10	**Speed Ref 1** Provides the speed reference that the drive uses when selected by parameter 16 [Speed Ref Sel]. A value of 1.0 represents base speed of the motor.	Default: Min: Max: Type: File: Group:	0.0000 -2200000000 2200000000 Linkable, Read-Write, Floating Point Speed Control Reference	
11	**Spd Ref1 Divide** Parameter 10 [Speed Ref 1] is divided by this number. Use this parameter to scale the value of Speed Ref 1.	Default: Min: Max: Type: File: Group:	1.0000 -2200000000 2200000000 Non-Linkable, Read-Write, Floating Point Speed Control Reference	
12	**Speed Ref 2** Provides the speed reference that the drive uses when selected by parameter 16 [Speed Ref Sel]. A value of 1.0 represents base speed of the motor.	Default: Min: Max: Type: File: Group:	0.0000 -2200000000 2200000000 Linkable, Read-Write, Floating Point Speed Control Reference	
13	**Spd Ref2 Multi** Parameter 12 [Speed Ref 2] is multiplied by this number. Use this parameter to scale the value of Speed Ref 2.	Default: Min: Max: Type: File: Group:	1.0000 -2200000000 2200000000 Linkable, Read-Write, Floating Point Speed Control Reference	
14	**Speed Ref 4** Provides the speed reference that the drive uses when selected by parameter 16 [Speed Ref Sel]. A value of 1.0 represents base speed of the motor.	Units: Default: Min: Max: Type: File: Group:	RPM 0.0000 -14000 14000 Linkable, Read-Write, Floating Point Speed Control Reference	
15	**Speed Ref 5** Provides the speed reference that the drive uses when selected by parameter 16 [Speed Ref Sel]. A value of 1.0 represents base speed of the motor.	Units: Default: Min: Max: Type: File: Group:	RPM 0.0000 -14000 14000 Linkable, Read-Write, Floating Point Speed Control Reference	
16	**Speed Ref Sel** Enter or write a value to select the source of the speed reference to the drive.	Default: Options: File: Group:	Val 1 Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Speed Control Reference	Spd Ref 1 Zero Speed Spd Ref 1 Spd Ref 2 Spd Ref 3 Spd Ref 4 Spd Ref 5

No.	Name Description	Values	
17	**Jog Speed 1** Provides the speed reference that the drive uses when responding to bit 18 [Jog 1] of parameter 152 [Applied LogicCmd].	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Linkable, Read-Write, Floating Point Speed Control Reference
18	**Jog Speed 2** Provides the speed reference that the drive uses when responding to bit 23 [Jog 2] of parameter 152 [Applied LogicCmd].	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Linkable, Read-Write, Floating Point Speed Control Reference
19	**Atune Spd Ref** Sets the maximum speed of the motor during the Flux current and inertia tests. A value of 1.0 represents base speed of the motor.	Units: Default: Min: Max: Type: File: Group:	RPM 1487.5 525 1750 Non-Linkable, Read-Write, Floating Point Speed Control Regulator
21	**Speed Trim 1** Provides an additive trim value to the Scaled Speed Reference. A value of 1.0 represents base speed of the motor.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Linkable, Read-Write, Floating Point Speed Control Reference
22	**Speed Trim 2** Provides an additive speed trim value with a Lead/Lag filter. Position regulator output is linked to this parameter by default. This speed trim value affects the speed reference input to the speed regulator.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Linkable, Read-Write, Floating Point Speed Control Regulator
23	**Speed Trim 3** Provides a scalable speed trim value that will be added to the speed reference input to the speed regulator. Parameter 24 [SpdTrim3 Scale] scales this value prior to the trim value affecting the speed reference. A value of 1.0 represents base speed of the motor.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Linkable, Read-Write, Floating Point Speed Control Regulator
24	**SpdTrim 3 Scale** This parameter is multiplied with the value in parameter 23 [Speed Trim 3].	Default: Min: Max: Type: File: Group:	1 -3.2767 3.2767 Linkable, Read-Write, Floating Point Speed Control Regulator

No.	Name Description	Values	
25	**STrim2 Filt Gain** Sets the lead term for the parameter 22 [Speed Trim 2] filter. Values greater than 1 will result in a lead function and value less than 1 will result in a lag function. A value of 1 will disable the filter.	Default: Min: Max: Type: File: Group:	1 -15 15 Linkable, Read-Write, Floating Point Speed Control Regulator
26	**SpdTrim2 Filt BW** Sets the natural frequency for the Speed Trim 2 filter.	Units: Default: Min: Max: Type: File: Group:	R/S 200 0 1000 Linkable, Read-Write, Floating Point Speed Control Regulator
30	**Rev Speed Limit** Sets a limit on the speed in the negative direction. This value can be entered in as a negative value or zero. This parameter is internally linked to parameters 335 [Abs OverSpd Lim] and 2180 [Motor NP RPM].	Units: Default: Min: Max: Type: File: Group:	RPM -2187.5 -14000 0 Non-Linkable, Read-Write, Floating Point Speed Control Reference, Regulator
31	**Fwd Speed Limit** Sets a limit on the speed in the positive direction. This value can be entered in as a positive value or zero. This parameter is internally linked to parameters 335 [Abs OverSpd Lim] and 2180 [Motor NP RPM].	Units: Default: Min: Max: Type: File: Group:	RPM 2187.5 0 14000 Non-Linkable, Read-Write, Floating Point Speed Control Reference, Regulator
32	**Accel Time** Sets the rate of acceleration for all speed increases. (Rated Speed/Accel Time) = Accel Rate	Units: Default: Min: Max: Type: File: Group:	Sec 10 0.1 6553.5 Linkable, Read-Write, Floating Point Speed Control Reference
33	**Decel Time** Sets the rate of deceleration for all speed decreases. (Rated Speed/Decel Time) = Decel Rate	Units: Default: Min: Max: Type: File: Group:	Sec 10 0.1 6553.5 Linkable, Read-Write, Floating Point Speed Control Reference
34	**S Curve Time** Sets the S time (Round In and Round Out) in seconds. This time is added at the beginning and to the end of the applied ramp. The S time is independent of speed and results in a trapezoidal torque profile.	Units: Default: Min: Max: Type: File: Group:	Sec 0.5 0 4 Non-Linkable, Read-Write, Floating Point Speed Control Reference

No.	Name Description	Values	
35	**SpdRef Filt Gain** Sets the lead term for the Speed Reference filter. Values greater than 1 will result in a lead function and value less than 1 will result in a lag function. A value of 1 will disable the filter.	Default: Min: Max: Type: File: Group:	1 -5 5 Linkable, Read-Write, Floating Point Speed Control Reference
36	**SpdRef Filt BW** Sets the natural frequency for the Speed Reference filter.	Units: Default: Min: Max: Type: File: Group:	R/S 0 0 500 Linkable, Read-Write, Floating Point Speed Control Reference
37	**Spd Ref Bypass** The speed command after the limit, ramp and s-curve blocks. Link a source directly to this parameter to bypass these blocks.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Linkable, Read-Write, Floating Point Speed Control Reference
38	**Speed Ref Scale** This parameter is multiplied with the value in parameter 44 [Filtered Spd Ref] to produce the value in parameter 46 [Scaled Spd Ref].	Default: Min: Max: Type: File: Group:	1 -3.2767 3.2767 Linkable, Read-Write, Floating Point Speed Control Reference
40	**Selected Spd Ref** The speed command before the limit block. A value of 1.0 represents base speed of the motor.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read Only, Floating Point Speed Control Reference
41	**Limited Spd Ref** Displays the speed command after the limit block, limited by parameter 30 [Rev Speed Limit] and parameter 31 [Fwd Speed Limit]. A value of 1.0 represents base speed of the motor.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read Only, Floating Point Speed Control Reference
42	**Ramped Spd Ref** Displays the speed command after the linear ramp block, modified by parameter 32 [Accel Time] and parameter 33 [Decel Time]. A value of 1.0 represents base speed of the motor.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read Only, Floating Point Speed Control Reference

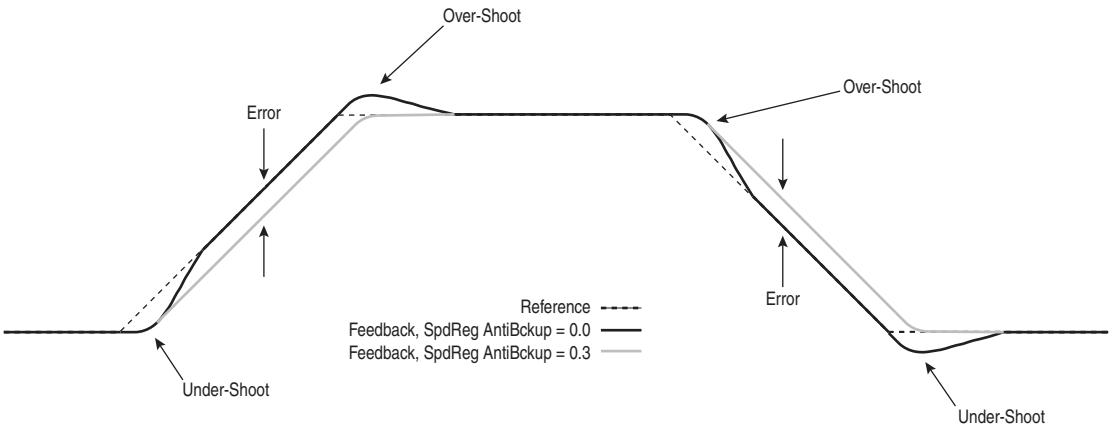
No.	Name Description	Values	
43	**S Curve Spd Ref** Displays the speed command after the s-curve block, modified by parameter 34 [S Curve Time]. A value of 1.0 represents base speed of the motor.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read Only, Floating Point Speed Control Reference
44	**Filtered Spd Ref** Displays the speed reference value output from the reference Lead/Lag filter. A value of 1.0 represents base speed of the motor.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read Only, Floating Point Speed Control Reference
45	**Delayed Spd Ref** One sample period delayed output of parameter 43 [S Curve Spd Ref]. Used in some applications to phase synchronize the speed reference value through SynchLink. This parameter would be utilized in place of [S Curve Spd Ref] in the master drive. [S Curve Spd Ref] would then be transmitted to the slave drives over SynchLink. A value of 1.0 represents base speed of the motor.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read Only, Floating Point Speed Control Reference
46	**Scaled Spd Ref** Displays the speed command after scaling (the product of parameter 44 [Filtered Spd Ref] and parameter 38 [Speed Ref Scale]. A value of 1.0 represents base speed of the motor.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read Only, Floating Point Speed Control Reference
47	**Spd Trim1 SpdRef** The final speed command that will be utilized by the Speed Regulator. It is the sum of the parameter 46 [Scaled Spd Ref] and parameter 21 [Speed Trim1]. A value of 1.0 represents base speed of the motor.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read Only, Floating Point Speed Control Reference, Regulator

No.	Name Description	Values		
50	**Spd Ref TP Sel** Enter or write a value to select speed reference data displayed in parameter 52 [Spd TP Data] and parameter 51 [Spd Ref TP RPM].	Default:	Val 0	Zero
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14 Val 15 Val 16 Val 17 Val 18 Val 19 Val 20 Val 21	Zero User Ref Logic Select Lgc Sel Ref Reserved Logic En Ref Rev Spd Lim Fwd Spd Lim Rev Lim Stat Fwd Lim Stat Amp Lim Stat Ramp Match S Crv Match S Array size S Array Indx VE Pos Diff Scl Ext Trim Trim Filt OutRef w/Trim Amp Lim2 In Amp LimStat2 Amp Lim2 Out
		File: Group:	Speed Control Reference, Regulator	
51	**Spd Ref TP RPM** Displays the value selected by parameter 50 [SPd Ref TP Sel] in RPM. This display should only be used if the selected value is floating point data.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read Only, Floating Point Utility Test Points	
52	**Spd Ref TP Data** Displays the value selected by parameter 50 [SPd Ref TP Sel]. A value of 1.0 represents base speed of the motor.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Non-Linkable, Read Only, 16-bit Integer Utility Test Points	
56	**Inertia SpeedRef** The speed input of the inertia compensator. Link this parameter to the output of an internal ramp or s-curve block. The inertia compensator generates a torque reference that is proportional to the rate of change of speed input and total inertia.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Linkable, Read-Write, Floating Point Speed Control Reference	
57	**InertiaAccelGain** Sets the acceleration gain for the Inertia Compensation function. A value of 1 produces 100% compensation.	Default: Min: Max: Type: File: Group:	0 0 2 Linkable, Read-Write, Floating Point Speed Control Reference	

No.	Name Description	Values	
58	**InertiaDecelGain** Sets the deceleration gain for the Inertia Compensation function. A value of 1 produces 100% compensation.	Default: Min: Max: Type: File: Group:	0 0 2 Linkable, Read-Write, Floating Point Speed Control Reference
59	**Inertia Torq Add** The torque reference output generated by the inertia compensator. This torque level is modified by parameter 57 [InertiaAccelGain] and parameter 58 [InertiaDecelGain]. A value of 1.0 represents rated torque of the motor.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Non-Linkable, Read Only, Floating Point Speed Control, Torque Control Reference, Torque
61	**Virt Encoder PPR** Equivalent Pulses Per Revolution or line count of a virtual encoder. A virtual encoder is a position reference whose input comes from speed reference. It accumulates pulses at the same rate as a real encoder of identical PPR. The virtual encoder PPR is internally multiplied by 4 so that total accumulated pulses per revolution is 4x the specified PPR.	Units: Default: Min: Max: Type: File: Group:	PPR 4096 10 65535 Non-Linkable, Read-Write, 16-bit Integer Speed Control Reference
62	**Virt Encdr Posit** A 32 bit pulse accumulator of the virtual encoder. The accumulated pulse count is equivalent to the hardware accumulator of a real encoder. It accumulates at a rate of 4x the value in parameter 61 [Virt Encoder PPR]. The accumulator starts at zero upon position enable.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Speed Control Reference
63	**Virt Encdr Dlyed** One sample period delayed output of parameter 62 [Virt Encdr Posit]. Used in some applications to phase synchronize position reference through synchLink. The master is delayed one sample while the downstream drives update their position references – then all drives sample position simultaneously. The downstream drives do not select a delay.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Speed Control Reference
70	**MtrSpd Sim Posit** The motor position output of the motor simulator. The motor simulator provides motor position information during setup and troubleshooting when actual motor control is not desired or possible. To use the motor simulator, enter a value of 4 in parameter 222 [Motor Fdbk Sel].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Speed/Posit Fdbk Calculated Fdbk
71	**Filtered SpdFdbk** Displays the motor speed feedback value output from the feedback Lead/Lag filter. A value of 1.0 represents base speed of the motor. A value of 1.0 represents base speed of the motor.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read Only, Floating Point Speed Control Regulator

No.	Name Description	Values		
72	**Scaled Spd Fdbk** Displays the product of the speed feedback and parameter 73 [Sped Fdbk Scale]. This parameter is for display only.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Monitor, Speed/Posit Fdbk Metering, Feedback Config	
73	**Spd Fdbk Scale** A user adjustable scale factor (multiplier) for speed feedback. It is multilplied with speed feedback to produce parameter 72 [Scaled Spd Fdbk].	Default: Min: Max: Type: File: Group:	1 -2200000000 2200000000 Linkable, Read-Write, Floating Point Speed/Posit Fdbk Feedback Config	
76	**MtrSpd Simulated** The motor speed output of the motor simulator. The motor simulator provides motor speed information during setup and troubleshooting when actual motor control is not desired or possible. To use the motor simulator, enter a value of 4 in parameter 222 [Motor Fdbk Sel].	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read Only, Floating Point Speed/Posit Fdbk Calculated Fdbk	
77	**Spd Fdbk TP Sel** Enter or write a value to select the data displayed in parameter 78 [Spd Fdbk TP RPM] and parameter 79 [Spd Fdbk TP data].	Default:	Val 0	Zero
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14 Val 15	Zero Clock Time Tach Loss Sw Actl FB Dev Reserved Observer Err UnFilt Load Pri Actl Spd Alt Actl Spd Pri Actl Pos Alt Actl Pos Obser dp in Obser dp Obser dperr Obser accel Obser K3/S
		File: Group:	Utility Test Points	
78	**Spd Fdbk TP RPM** Displays the value selected by parameter 77 [Spd Fdbk TP Sel] in RPM. This display should only be used if the selected value is floating point data.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read Only, Floating Point Utility Test Points	
79	**Spd Fdbk TP Data** Displays the value selected by [Spd Fdbk TP Sel]. This display should only be used if the selected value is integer data.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Non-Linkable, Read Only, 16-bit Integer Utility Test Points	

No.	Name Description	Values		
80	**Speed Reg Ctrl** Enter or write a value to configure the speed regulator integrator.	Default:	0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7	Reserved Preset SelInteg HoldInteg Reset Reserved Reserved Reserved
		File: Group:	Speed Control Regulator	
81	**Spd Reg P Gain** Sets the proportional gain of the speed regulator. It's value is automatically calculated based on the bandwidth setting in parameter 90 [Spd Reg BW]. Proportional gain may be manually adjusted by setting parameter 90 to a value of zero. Units are (per unit torque) / (per unit speed).	Default: Min: Max: Type: File: Group:	8 0 200 Linkable, Read-Write, Floating Point Speed Control Regulator	
82	**Spd Reg I Gain** Sets the integral gain of the speed regulator. It's value is automatically calculated based on the bandwidth setting in parameter 90 [Spd Reg BW]. Integral gain may be manually adjusted by setting parameter 90 to a value of zero. Units are (per unit torque/sec) / (per unit speed).	Units: Default: Min: Max: Type: File: Group:	/Sec 8 0 4095.8 Linkable, Read-Write, Floating Point Speed Control Regulator	
84	**SpdReg AntiBckup** This term modifies the drive's response to the speed reference. With the value minimized, the drive will follow the reference very closely, minimizing error, which is desirable for most process applications. However, it will exhibit some over-shoot and under-shoot. Increasing the value of this term decreases the over-shoot and under-shoot, which is desirable where back-up can not be tolerated. However, this tends to increase the following error. This parameter has no affect on the drive's response to load changes.	Default: Min: Max: Type: File: Group:	0 0 0.5 Linkable, Read-Write, Floating Point Speed Control Regulator	



No.	Name Description	Values	
85	**Servo Lock Gain** Sets the gain of an additional integrator in the speed regulator. The effect of Servo Lock is to increase stiffness of the speed response to a load disturbance. It behaves like a position regulator with velocity feed forward, but without the pulse accuracy of a true position regulator. The units of Servo Lock are the same as a position regulator with units in rad/sec. Gain should normally be set to less than 1/3 speed regulator bandwidth, or for the desired response. Set to zero to disable Servo Lock.	Units: Default: Min: Max: Type: File: Group:	/Sec 0 0 300 Linkable, Read-Write, Floating Point Speed Control Regulator
86	**Spd Reg Droop** Specifies the amount of base speed that the speed reference is reduced when at full load torque. Use the droop function to cause the motor speed to droop with an increase in load. The units are per unit speed / per unit torque.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 0 0.25 Linkable, Read-Write, Floating Point Speed Control Regulator
87	**SReg Torq Preset** When the drive is not enabled, this parameter presets integrator output parameter 101 [SpdReg Integ Out] to specified torque level. This ensures that the torque command will be at the preset value when the drive is enabled and run. Parameter 80 [Speed Reg Ctrl] bit 1 [Preset Sel] = 0 will permit this preset.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Linkable, Read-Write, Floating Point Speed Control Regulator
89	**Spd Err Filt BW** Sets the bandwidth of a 2nd order Butterworth low pass filter, which reduces quantization noise. The units are rad/sec. A value of 0 will disable the filter. The value should be greater than 6 times the value of parameter 90 [Spd Reg BW].	Units: Default: Min: Max: Type: File: Group:	R/S 500 0 3500 Linkable, Read-Write, Floating Point Speed Control Regulator
90	**Spd Reg BW** Sets the bandwidth of the speed regulator in rad/sec. Bandwidth is also referred to as the crossover frequency. Small signal time response is approximately 1/BW and is the time to reach 63% of set point. A change to this parameter will cause an automatic update of parameters 81 [Spd Reg P Gain] and 82 [Spd Reg I Gain]. To disable the automatic gain calculation, set this parameter to a value of zero.	Units: Default: Min: Max: Type: File: Group:	R/S 10 0 500 Linkable, Read-Write, Floating Point Speed Control Regulator
91	**Spd Reg Damping** Sets the damping factor of the drive's characteristic equation and factors in the calculation of the integral gain. A damping factor of 1.0 is considered critical damping. Lowering the damping will produce faster load disturbance rejection, but may cause a more oscillatory response. When parameter 90 [Spd Reg BW] is set to zero, damping factor has no effect.	Default: Min: Max: Type: File: Group:	1 0.5 3 Linkable, Read-Write, Floating Point Speed Control Regulator

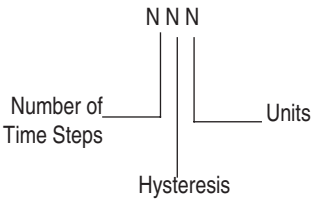
No.	Name Description	Values	
92	**SpdReg P Gain Mx** Places a limit on the maximum value of proportional gain in parameter 81 [Spd Reg P Gain]. When gains are autmatically calculated, this parameter is necessary to limit the amplification of noise with increased inertia.	Default: Min: Max: Type: File: Group:	100 0 200 Linkable, Read-Write, Floating Point Speed Control Regulator
93	**SRegFB Filt Gain** Sets the lead term for the speed feedback filter. Values greater than 1 will result in a lead function and value less than 1 will result in a lag function. A value of 1 will disable the filter.	Default: Min: Max: Type: File: Group:	1 -5 20 Linkable, Read-Write, Floating Point Speed Control Regulator
94	**SReg FB Filt BW** Sets the natural frequency for the Speed feedback filter.	Units: Default: Min: Max: Type: File: Group:	R/S 0 0 3760 Linkable, Read-Write, Floating Point Speed Control Regulator
95	**SRegOut FiltGain** Sets the lead term for the Speed Regulator output filter. Values greater than 1 will result in a lead function and value less than 1 will result in a lag function. A value of 1 will disable the filter.	Default: Min: Max: Type: File: Group:	1 -5 5 Linkable, Read-Write, Floating Point Speed Control Regulator
96	**SReg Out Filt BW** Sets the natural frequency for the Speed Regulator output filter.	Units: Default: Min: Max: Type: File: Group:	R/S 0 0 3760 Linkable, Read-Write, Floating Point Speed Control Regulator

No.	Name Description	Values		
98	**Spd Gain TP Sel** Enter or write a value to select the speed gain data displayed in parameter 99 [Spd Gain TP Data].	Default:	Val 0	Zero
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14 Val 15 Val 16 Val 17	Zero Intg Rate BW Inertia BW PGain Max BW BW Limit BW CalcBW Lim Stat BW Select Totl Inertia TI Lim Stat Mtr Inertia M InrtLmStat I Rate Limit I RtLim Stat PGain Max GnMx LimStat Damping Dmp Lim Stat
		File: Group:	Utility Test Points	
99	**Spd Gain TP Data** Displays the value selected by parameter 98 [Spd Gain TP Sel].	Default: Min: Max: Type: File: Group:	0 0 500 Non-Linkable, Read Only, Floating Point Utility Test Points	
100	**Speed Error** The error (difference) between the motor speed reference (+) and the filtered motor speed feedback (-).	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read Only, Floating Point Speed Control Regulator	
101	**SpdReg Integ Out** The output value of the Speed Regulator Intergal channel.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Non-Linkable, Read Only, Floating Point Speed Control Regulator	
102	**Spd Reg Pos Lim** Specifies the positive limit of the Speed regulator output value. The output of the Speed regulator is limited by adjustable high and low limits.	Units: Default: Min: Max: Type: File: Group:	P.U. 3 0 6 Linkable, Read-Write, Floating Point Speed Control Regulator	

No.	Name Description	Values		
103	**Spd Reg Neg Lim** The negative limit of the Speed regulator output value. The output of the Speed regulator is limited by adjustable high and low limits.	Units: Default: Min: Max: Type: File: Group:	P.U. -3 -6 0 Linkable, Read-Write, Floating Point Speed Control Regulator	
108	**Spd Reg TP Sel** Enter or write a value to select speed regulator data displayed in parameter 109 [Spd Reg TP Data].	Default:	Val 0	Zero
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14 Val 15 Val 16 Val 17 Val 18 Val 19	Zero Spd FiltOut Servo Lock Spd+ServLock Prop Output Intg Input Scld Int Pre Sel Int Pre Droop Output Out Lim Stat Intg Hold ReservedI GainParLim P GainParLim SrvLck ParLm AntiBkup PLm Droop ParLim Pos Lim Stat Neg Lim Stat Limiter Out
		File: Group:	Utility Test Points	
109	**Spd Reg TP Data** Displays the data selected by parameter 108 [Spd Reg TP Sel].	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Non-Linkable, Read Only, Floating Point Utility Test Points	
110	**Spd/Torq ModeSel** Selects the source for the drive torque reference. It operates as a selector switch, whose position determines the torque reference selection.	Default:	Val 1	Speed Reg
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6	Zero Torque Speed Reg Torque Ref Min Spd/Torq Max Spd/Torq Sum Spd/Torq AbsMn Spd/Tq
		File: Group:	Torque Control Torque	

No.	Name Description	Values	
111	**Torque Ref 1** Supplies an external motor torque reference to the drive. This parameter is divided by the value inparameter 112 [Torq Ref1 Div]. A value of 1.0 represents rated torque of the motor.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Torque Control Torque
112	**Torq Ref1 Div** The divisor for parameter 111 [Torque Ref 1].	Default: Min: Max: Type: File: Group:	1 -2200000000 2200000000 Non-Linkable, Read-Write, Floating Point Torque Control Torque
113	**Torque Ref 2** Supplies an external motor torque reference to the drive. This parameter is multiplied by the value in [Torq Ref2 Mult]. A value of 1.0 represents rated torque of the motor.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Torque Control Torque
114	**Torq Ref2 Mult** The multiplier for parameter 113 [Torque Ref 2].	Default: Min: Max: Type: File: Group:	1 -2200000000 2200000000 Linkable, Read-Write, Floating Point Torque Control Torque
115	**Torque Trim** The amount added to the Torque Reference before the Speed - Torque Mode Selector. A value of 1.0 represents rated torque of the motor.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Linkable, Read-Write, Floating Point Torque Control Torque
116	**Torque Step** The amount added to the selected Torque Reference before notch filtering or limits are applied. A value of 1.0 represents rated torque of the motor.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Linkable, Read-Write, Floating Point Torque Control Torque
117	**Notch Filt Mode** Enter or write a value to select the type of notch filter.	Default: Options: File: Group:	Val 0 — No Filter Val 0 — No Filter Val 1 — FIR Notchl Val 2 — IR Notch Torque Control Torque

No.	Name Description	Values		
118	**Notch Filt Freq** The center frequency for both types of Notch filter.	Units: Default: Min: Max: Type: File: Group:	Hz 135 0 500 Linkable, Read-Write, Floating Point Torque Control Torque	
119	**Current NegLimit** The negative current limit value. If this value is less than the absolute value of parameter 2184 [PMI Curr Lim], this value will set parameter 122 [Curr PosLim Actl]. A value of 1.0 represents motor rated current.	Units: Default: Min: Max: Type: File: Group:	P.U. -1 -8 0 Linkable, Read-Write, Floating Point Torque Control Current	
120	**Current PosLimit** The positive current limit value. If this value is less than the absolute value of parameter 2184 [PMI Curr Lim], this value will set parameter 121 [Curr NegLim Actl]. A value of 1.0 represents motor rated current.	Units: Default: Min: Max: Type: File: Group:	P.U. 1 0 8 Linkable, Read-Write, Floating Point Torque Control Current	
121	**Curr NegLim Actl** The actual negative current limit value determined as the maximum value of parameter 119 [Current NegLimit] and the negative of the value in parameter 2184 [PMI Curr Lim]. A value of 1.0 represents rated torque of the motor.	Units: Default: Min: Max: Type: File: Group:	P.U. -1 -8 0 Non-Linkable, Read Only, Floating Point Torque Control, Torque Control Torque, Current	
122	**Curr PosLim Actl** The actual positive current limit value determined as the maximum value of parmater 120 [Current PosLimit] and parameter 2184 [PMI Curr Lim]. A value of 1.0 represents rated torque of the motor.	Units: Default: Min: Max: Type: File: Group:	P.U. 1 0 8 Non-Linkable, Read Only, Floating Point Torque Control, Torque Control Torque, Current	
130	**Torq Ref TP Sel** Enter or write a value to select torque reference data displayed in parameter 131 [Torq Ref TP Data].	Default:	Val 0	Zero
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9	Zero Scale Output Spd Torque TorqMode Out Reserved Actv Mod Out Torq En In Reserved NotchFilt In Torq Lim In
		File: Group:	Utility Test Points	

No.	Name Description	Values	
131	**Torq Ref TP Data** Displays the data selected by parameter 130 [Torque Ref TP Sel].	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Non-Linkable, Read Only, Floating Point Utility Test Points
140	**FricComp Spd Ref** Supplies a speed input to the Friction Compensation algorithm. This input is normally a speed reference from a motion planner or ramped speed reference. It will trigger a torque feed forward response depending on its value.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Linkable, Read-Write, Floating Point Speed Control Reference
141	**FricComp Setup** Enter or write a value to configure the friction compensation algorithm. This is a packed word of 3 digits. Each digit has a possible selection of 10 levels. • The most significant digit sets the number of time steps from stick to slip, each step is 0.002 sec. • The least significant digit sets the speed threshold in intervals of 0.0005 pu speed. • The next (middle) digit sets the hysteresis band for the "units" digit in intervals of 0.0005 pu velocity. Example: FricComp Setup = 324 means: 3 time steps between stick and slip, each of 0.002 sec. duration, 2 counts of hysteresis or 0.001 pu_speed (each count is 0.0005 pu speed), and 4 counts or 0.002 pu_speed is the trigger threshold (each count is 0.0005 pu speed).	Default: Min: Max: Type: File: Group:	325 0 999 Non-Linkable, Read-Write, 16-bit Integer Speed Control Reference
			
142	**FricComp Stick** The torque needed to break away from zero speed. By nature of friction, the break away friction will always be greater than the running friction.	Units: Default: Min: Max: Type: File: Group:	P.U. 0.15 0 8 Linkable, Read-Write, Floating Point Speed Control Reference
143	**FricComp Slip** The torque level to sustain very low speed – once "break away" has been achieved. By nature of friction, running torque (slip) will always be less than break away torque.	Units: Default: Min: Max: Type: File: Group:	P.U. 0.1 0 8 Linkable, Read-Write, Floating Point Speed Control Reference
144	**FricComp Rated** The torque needed to keep the motor running at base motor speed and with no process loading. The friction compensation algorithm assumes a linear or viscous component of friction between parameter 143 [FricComp Slip] and parameter 144 [FricComp Rated].	Units: Default: Min: Max: Type: File: Group:	P.U. 0.2 0 8 Linkable, Read-Write, Floating Point Speed Control Reference

No.	Name Description	Values		
145	**FricComp TorqAdd** The torque reference output of the Friction Compensation function. A value of 1.0 represents rated torque of the motor.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Non-Linkable, Read Only, Floating Point Speed Control, Torque Control Reference, Torque	
150	**Logic State Mach** Indicates the logical state of the drive. Value 0 - Stopped indicates zero speed has been detected and the speed and torque regulators are disabled.	Default:	Val 0	Stopped
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6	Stopped Starting Running Stopping Inertia Test MC Diag Reserved
		File: Group:	Monitor Control Status	
151	**Logic Command** The controller-drive interface (as defined by the Controller Commmunication Format), set bits to enable and disable various functions and algorithms. Bits that are changed here are reflected in parameter 152 [Applied LogicCmd]. Note: Bits 4 through 9 in Logic Command are NOT recalled from Control EEprom. They will be cleared upon drive powerup or following an EEprom recall operation. Refer to Peak Detector / Control Logix on page B-11, the block diagram shows the connection to the LogicCommand word, of the Controller Communication Format, via parameter 600 [Integer In00].	Default:	0000 0000 0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15	SpdRamp Dsbl Spd S Crv En TachLoss Rst Time Axis En MC Atune En Reserved Reserved Reserved Mtr Inert En Sys Inert En Inertia Comp Frict Comp ProcsTrim En Reserved Reserved Reserved
		File: Group:	Dynamic Control Configuration	

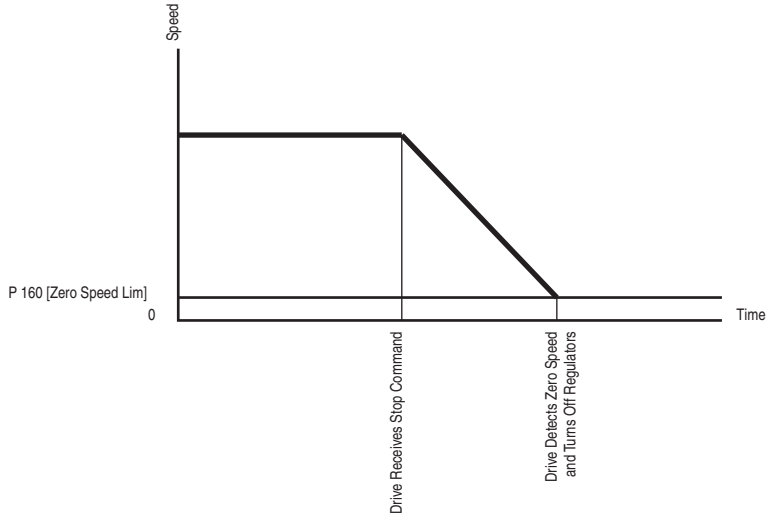
No.	Name Description	Values		
152	**Applied LogicCmd** Displays Logic Command that is applied to the Regulators and Control Algorithms within the drive. Logic Commands come from the 32-bit Logic Command found in a connection with the Logix Controller. Refer to Peak Detector / Control Logix on page B-11, the block diagram shows the connection to the LogicCommand word, of the Controller Communication Format, via parameter 600 [Integer In00].	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15 Bit 16 Bit 17 Bit 18 Bit 19 Bit 20 Bit 21 Bit 22 Bit 23 Bit 24 Bit 25 Bit 26 Bit 27 Bit 28 Bit 29 Bit 30 Bit 31	SpdRamp Dsbl Spd S Crv En TachLoss Rst Time Axis En MC Atune En Reserved Reserved Reserved Mtr Inert En Sys Inert En Inertia Comp Frict Comp ProcsTrim En Reserved Reserved Reserved Normal Stop Start Jog 1 Clear Fault UniPol Fwd UniPol Rev Reserved Jog 2 CurrLim Stop Coast Stop Position En Reserved Reserved Reserved Field En Reserved
		File: Group:	Dynamic Control Configuration	

No.	Name Description	Values		
153	**Control Options** Select options for operating the drive logic operations.	Default:	0000 0000 0000 0000 0000 0001 0000 0001	
		Options:	Bit 0	Bipolar SRef
			Bit 1	SRef Filt En
			Bit 2	Reserved
			Bit 3	Reserved
			Bit 4	Jog in Torq
			Bit 5	Jog - NoRamp
			Bit 6	Stop in Torq
			Bit 7	Stop Cndt Tq
			Bit 8	Latch Start
			Bit 9	2W CoastStop
			Bit 10	Reserved
			Bit 11	Curr Delay
			Bit 12	Jog -NoInteg
			Bit 13	Reserved
			Bit 14	Invt Spd Fbk
			Bit 15	Invt Mtr Cur
			Bit 16	Reserved
			Bit 17	Reserved
			Bit 18	Reserved
			Bit 19	Reserved
			Bit 20	Reserved
			Bit 21	Reserved
			Bit 22	Reserved
			Bit 23	Reserved
			Bit 24	Reserved
			Bit 25	Reserved
			Bit 26	Reserved
			Bit 27	Reserved
			Bit 28	Reserved
			Bit 29	Reserved
			Bit 30	Reserved
			Bit 31	Reserved
		File: Group:	Dynamic Control Configuration	

No.	Name Description	Values	
154	**Stop Dwell Time** Sets an adjustable delay time between detecting zero speed and disabling the speed and torque regulators, when responding to a stop command.	Units: Default: Min: Max: Type: File: Group:	Sec 0 0 10 Linkable, Read-Write, Floating Point Dynamic Control Stop/Brake Modes

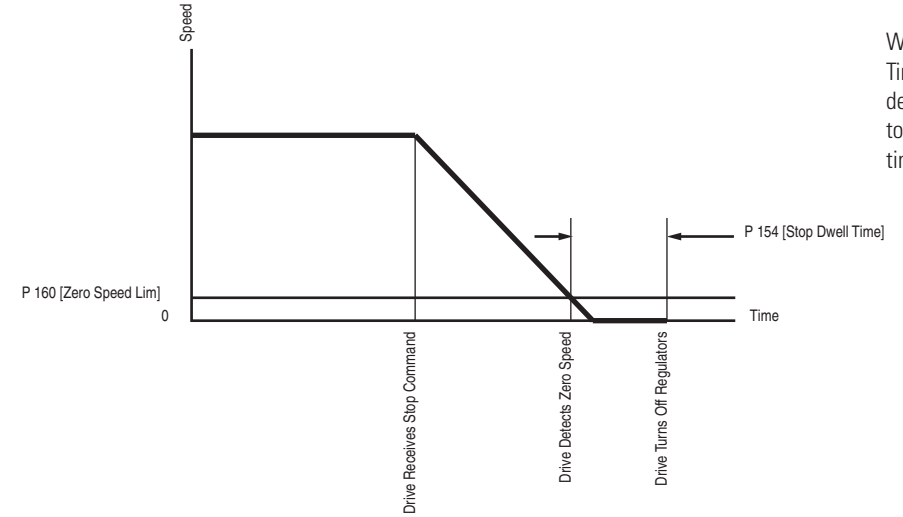
IMPORTANT Consult industry and local codes when setting the value of this parameter.

Drive Operation when paramter 154 [Stop Dwell Time] equals zero



When parameter 154 [Stop Dwell Time] equals zero, the drive turns off the velocity and torque regulators when it detects zero speed.

Drive Operation when paramter 154 [Stop Dwell Time] is greater than zero



When parameter 154 [Stop Dwell Time] is greater than zero, the drive delays turning off the velocity and torque regulators for the amount of time specified by parameter 154.

No.	Name Description	Values		
155	**Logic Status** Displays the status - condition of the drive. If there is a Controller to Drive Module error or inhibit, the data in the LogicStatus word of the Controller Communication Format will be set to 0x0000ffff. Bit 15 [Reserved] was used in AutoGen to detect loss of connection. This parameter is linked to the LogicStatus word of the Controller Communication Format via parameter 632 [Integer Out00].	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15 Bit 16 Bit 17 Bit 18 Bit 19 Bit 20 Bit 21 Bit 22 Bit 23 Bit 24 Bit 25 Bit 26 Bit 27 Bit 28 Bit 29 Bit 30 Bit 31	Enabled Running Command Dir Actual Dir Accelerating Decelerating Jogging Faulted Alarm Flash Mode Run Ready At Limit Tach Loss Sw At Zero Spd At Setpt Spd Reserved At Setpt 1 Above Setpt2 MC En Ack MC Commis Spd Commis Reserved Torque Mode Speed Mode PositionMode Start Active Command Run Reserved Reserved Reserved FieldCurr On Reserved
		File: Group:	Monitor Control Status	

No.	Name Description	Values		
156	**Run Inhibit Stat** Indicates which condition is preventing the drive from starting or running.	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options:	Bit 0	Faulted
			Bit 1	Reserved
			Bit 2	SW Ramp Stop
			Bit 3	SW Cost Stp
			Bit 4	SW I Stp
			Bit 5	Reserved
			Bit 6	Reserved
			Bit 7	Reserved
			Bit 8	Reserved
			Bit 9	Reserved
			Bit 10	Reserved
			Bit 11	Reserved
			Bit 12	Reserved
			Bit 13	Reserved
			Bit 14	Reserved
			Bit 15	Reserved
			Bit 16	Start
			Bit 17	Jog
			Bit 18	Reserved
			Bit 19	Reserved
			Bit 20	Reserved
			Bit 21	Reserved
			Bit 22	Reserved
			Bit 23	Reserved
			Bit 24	Reserved
			Bit 25	Reserved
			Bit 27	Reserved
			Bit 28	No PMI Sync
			Bit 29	No Run Perm
			Bit 30	PMI Drv Flt
			Bit 31	PMIDrvIntrlk
		File: Group:	Monitor Control Status	

No.	Name Description	Values		
157	**Logic Ctrl State** Indicates which logic control functions are enabled.	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options:	Bit 0	Spd Ref En
			Bit 1	SRef Ramp En
			Bit 2	SRef SCrv En
			Bit 3	Position En
			Bit 4	Reserved
			Bit 5	J Tst FulSpd
			Bit 6	CurrLim Stop
			Bit 7	SReg IntgHld
			Bit 8	Spd Reg En
			Bit 9	Torq Ref En
			Bit 10	Forced Spd
			Bit 11	CurrRef En
			Bit 12	Reserved
			Bit 13	Mtr Sim Mode
			Bit 14	Reserved
			Bit 15	Reserved
			Bit 16	MC En Req
			Bit 17	Reserved
			Bit 18	Reserved
			Bit 19	Reserved
			Bit 20	Reserved
			Bit 21	Reserved
			Bit 22	Reserved
			Bit 23	Reserved
			Bit 24	Reserved
			Bit 25	Reserved
			Bit 26	Reserved
			Bit 27	Reserved
			Bit 28	Lgx Run Mode
			Bit 29	Lgx I/O Cnx
			Bit 30	Cmd Dir Upol
			Bit 31	ProcsTrim En
		File: Group:	Monitor Control Status	
160	**Zero Speed Lim** Establishes a band around zero speed that is used to determine when the drive considers the motor to be at zero speed. A value of 1.0 represents base speed of the motor.	Units: Default: Min: Max: Type: File: Group:	RPM 17.5 0 875 Linkable, Read-Write, Floating Point Dynamic Control Dynamic Control	

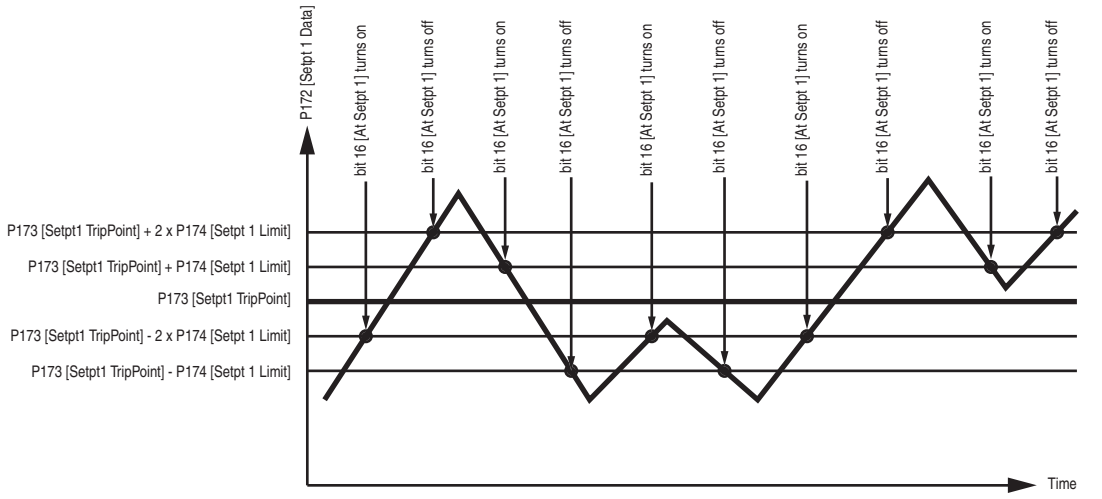
No.	Name Description	Values		
161	**Logic TP Sel** Enter or write a value to select logic status indication displayed in parameter 162 [Logic TP Data].	Default:	Val 0	Zero
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11	Zero Avg Spd Ref Avg Spd Fdbk LastStopMode Spd Ref Sel Start State Run State Stop State Reserved Meas State Data State Diag State
		File: Group:	Utility Test Points	
162	**Logic TP Data** Displays the indication selected by parameter 161 [Logic TP Sel].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Utility Test Points	
163	**Stop Oper TP Sel** Enter or write a value to select data displayed in parameter 164 [StpOper TPData] at the time of the last initiated stop.	Default:	Val 0	Zero
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14 Val 15 Val 16 Val 17 Val 18 Val 19 Val 20 Val 21 Val 22 Val 23	Zero Lgoic State Logic Input Reserved Logic Status Run Inhibit Logic Ctrl Mtr Ctrl Cmd Mtr Ctrl Ack Std Dig I/O Flt Status 1 Flt Status 2 Motor Speed Avg Spd Fdbk ZM1 Spd Fdbk Speed Ref Avg Spd Ref ZM1 Spd Ref SReg PI Out Torq Ref TorqRef Stat Reserved Motor Volts Mtr Current
		File: Group:	Utility Test Points	

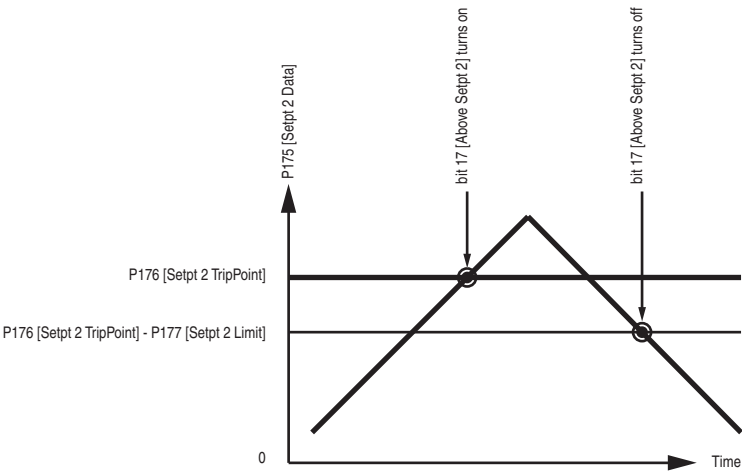
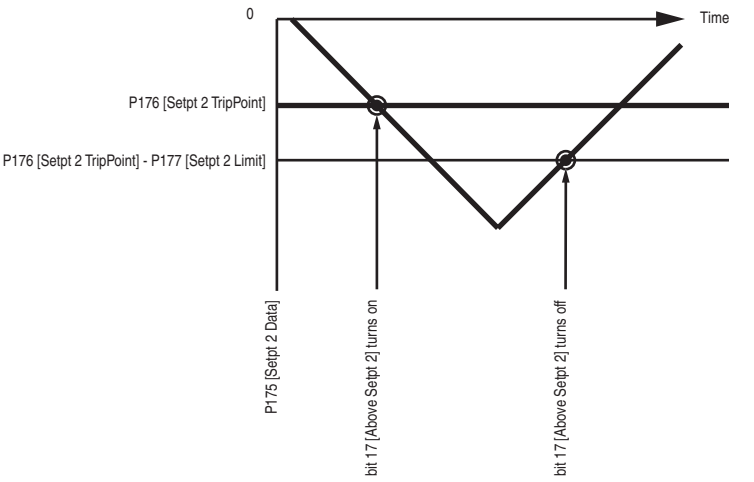
No.	Name Description	Values		
164	**StopOper TP Data** Displays the data selected by parameter 163 [Stop Oper TP Sel].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Utility Test Points	
165	**Test Status** Displays the name of any active test in progress.	Default:	Val 0	Diag Off
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14 Val 15 Val 16 Val 17 Val 18 Val 19 Val 20 Val 21 Val 22 Val 23 Val 24 Val 25 Val 26 Val 27 Val 28 Val 29 Val 30 Val 31	Diag Off Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Mtr Inertia Sys Inertia Reserved Reserved Reserved Reserved Reserved Reserved Reserved Arm Id Tst Fld Id Tst Arm Alph Tst FldRAlph Test ArmRAlph Tst Reserved Reserved
		File: Group:	Monitor Control Status	

No.	Name Description	Values		
166	**Motor Ctrl Cmmd** Displays the command bits to the Motor Control Processor from the Velocity Processor	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options:	Bit 0	Reserved
			Bit 1	Reserved
			Bit 2	Reserved
			Bit 3	Reserved
			Bit 4	Reserved
			Bit 5	Reserved
			Bit 6	Reserved
			Bit 7	Reserved
			Bit 8	Reserved
			Bit 9	Reserved
			Bit 10	Reserved
			Bit 11	Reserved
			Bit 12	Reserved
			Bit 13	Reserved
			Bit 14	Reserved
			Bit 15	Reserved
			Bit 16	Reserved
			Bit 17	Reserved
			Bit 18	Fld Econ En
			Bit 19	Clr Drv Wm
			Bit 20	Dsbl BrstFrg
			Bit 21	Dsbl Fld Wk
			Bit 22	Dsbl ShrtSCR
			Bit 23	Dsbl Opn SCR
			Bit 24	Arm Id Tst
			Bit 25	Fld Id Tst
			Bit 26	Arm Alph Tst
			Bit 27	Fld Alph Tst
			Bit 28	ArmRAlph Tst
			Bit 29	FldRAlph Tst
			Bit 30	Reserved
			Bit 31	Reserved
		File: Group:	Monitor Control Status	

No.	Name Description	Values		
167	**Motor Ctrl Ackn** Displays the Motor Control Processor's acknowledgment to the Velocity Processor for the Motor Control Command bits.	Default:	0000 0000 0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15	Arm Enabl Arm ID Done Arm AlphaMin Arm AlphaMax Field Enable Fld ID Done Fld AlphaLim Reserved Fault Detect Warning Detect AC Phase ABC Phase Ready Reserved Rail I/O OK PMI Syncd PMI O SLoaded
		File: Group:	Monitor Control Status	
168	**Drive I/O Ctrl** Set bits to control PMI functions.	Default:	0000 0000 0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15	Reserved M-Cont Out Ext Flt LED Reserved Aux Output Reserved Enbl Res Bal Reserved Ext Strobe Ext StrobeFE Dis BrknWire Reserved Reserved Reserved Reserved DM Fiber Tst
		File: Group:	Dynamic Control Configuration	

No.	Name Description	Values		
169	**Drive I/O Status** Indicates status of PMI functions.	Default:	0000 0000 0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15	Run Perm M-Cont Fdbk Aux In 2 Aux In 3 Aux In 4 Aux In 5 Res Gain OK Res Bal OK StrobeDetect Strobe Level Reserved Reserved Reserved Reserved Reserved Reserved
		File: Group:	Utility Diagnostics	
171	**Set Speed Lim** Creates a tolerance - hysteresis band around the value in parameter 41 [Limited Spd Ref] for comparison to average speed feedback. The comparison controls bit 14 [At Setpt Spd] of parameter 155 [Logic Status]. In general bit 14 [At Setpt Spd] turns on when the feedback is within the tolerance of the reference. Technically - Turn-on level for rising feedback = Limited Spd Ref - Limit. Turn-off level for rising feedback = Limited Spd Ref + 2(Limit). Turn-on level for falling feedback = Limited Spd Ref + Limit. Turn-off level for falling feedback = Limited Spd Ref - 2(Limit).	Units: Default: Min: Max: Type: File: Group:	RPM 17.5 0 875 Linkable, Read-Write, Floating Point Speed Control Setpoint Monitor	

No.	Name Description	Values	
172	**Setpt 1 Data** Provides data for comparison to parameter 173 [Setpt1 TripPoint], driving bit 16 [At Setpt 1] of parameter 155 [Logic Status].	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Linkable, Read-Write, , Floating Point Speed Control Setpoint Monitor
			
173	**Setpt1 TripPoint** Provides the midpoint for operation of bit 16 [At Setpt 1] of parameter 155 [Logic Status].	Units: Default: Min: Max: Type: File: Group:	P.U. 0.1 -8 8 Linkable, Read-Write, Floating Point Speed Control Setpoint Monitor
174	**Setpt 1 Limit** Creates a tolerance - hysteresis band around the value in parameter 173 [Setpt1 TripPoint]. Turn-on level for ascending data = TripPoint - Limit. Turn-off level for ascending data = TripPoint + 2(Limit). Turn-on level for descending data = TripPoint + Limit. Turn-off level for descending data = TripPoint - 2(Limit).	Units: Default: Min: Max: Type: File: Group:	P.U. 0.01 0 0.5 Linkable, Read-Write, Floating Point Speed Control Setpoint Monitor

No.	Name Description	Values	
175	**Setpt 2 Data** Provides data for comparison to parameter 177 [Setpt2 TripPoint], driving bit 17 [Above Setpt 2] of parameter 155 [Logic Status].	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Linkable, Read-Write, Floating Point Speed Control Setpoint Monitor
	Positive Setpoint (Parameter 176 [Setpt 2 TripPoint] Greater Than Zero)  **Negative Setpoint (Parameter 176 [Setpt 2 TripPoint] Less Than Zero)**  		
176	**Setpt2 TripPoint** Provides the midpoint for operation of bit 16 [At Setpt 1] of parameter 155 [Logic Status].	Units: Default: Min: Max: Type: File: Group:	P.U. 0.2 -8 8 Linkable, Read-Write, Floating Point Speed Control Setpoint Monitor

No.	Name Description	Values	
177	**Setpt 2 Limit** Creates a tolerance - hysteresis band around the value in parameter 176 [Setpt2 TripPoint]. For positive setpoints: Turn-on level = TripPoint, Turn-off level = TripPoint - Limit. For negative setpoints: Turn-on level = TripPoint, Turn-off level = TripPoint + Limit.	Units: Default: Min: Max: Type: File: Group:	P.U. 0.01 0 0.5 Linkable, Read-Write, Floating Point Speed Control Setpoint Monitor
180	**PI Output** The final output of the Process Control regulator. A value of 1 can represent either base motor speed, motor rated torque, or 100% for some external function.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Non-Linkable, Read Only, Floating Point Process Control Regulator
181	**PI Reference** The reference input for the process control regulator. A value of 1 can represent either base motor speed, motor rated torque, or 100% for some external function.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Linkable, Read-Write, Floating Point Process Control Process Config
182	**PI Feedback** The feedback input for the process control regulator. A value of 1 can represent either base motor speed, motor rated torque, or 100% for some external function.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Linkable, Read-Write, Floating Point Process Control Process Config

No.	Name Description	Values		
183	**PI Command** Set bits to configure the process control regulator -enable or disable the regulator, enable or disable the time function generator and limit generator.	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options:	Bit 0	Enable
			Bit 1	Time Lim En
			Bit 2	Reserved
			Bit 3	Reserved
			Bit 4	Reserved
			Bit 5	Reserved
			Bit 6	Reserved
			Bit 7	Reserved
			Bit 8	Reserved
			Bit 9	Reserved
			Bit 10	Reserved
			Bit 11	Reserved
			Bit 12	Reserved
			Bit 13	Reserved
			Bit 14	Reserved
			Bit 15	Reserved
			Bit 16	Reserved
			Bit 17	Reserved
			Bit 18	Reserved
			Bit 19	Reserved
			Bit 20	Reserved
			Bit 21	Reserved
			Bit 22	Reserved
			Bit 23	Reserved
			Bit 24	Reserved
			Bit 25	Reserved
			Bit 26	Reserved
			Bit 27	Reserved
			Bit 28	Reserved
			Bit 29	Reserved
			Bit 30	Reserved
			Bit 31	Reserved
		File: Group:	Process Control Process Config	
184	**PI Lpass Filt BW** Sets the bandwidth of a single pole filter applied to the error input of the Process Control regulator. The input to the filter is the difference between parameter 181 [PI Reference] and parameter 182 [PI Feedback]. The output of this filter is used as the input to the process control regulator.	Units: Default: Min: Max: Type: File: Group:	R/S 0 0 500 Linkable, Read-Write, Floating Point Process Control Regulator	
185	**PI Preload** Presets the integrator.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Linkable, Read-Write, Floating Point Process Control Regulator	

No.	Name Description	Values	
186	**PI Prop Gain** Controls the proportional gain of the Process Control regulator. If the proportional gain is 1.0, the regulator output equals 1 pu for 1 pu error.	Default: Min: Max: Type: File: Group:	8 0 200 Linkable, Read-Write, Floating Point Process Control Regulator
187	**PI Integ Time** Controls the integral gain of the Process Control regulator. If the integrator time is 1.0, the regulator output equals 1 pu in 1 second for 1 pu error.	Units: Default: Min: Max: Type: File: Group:	/Sec 8 0 4095.8 Linkable, Read-Write, Floating Point Process Control Regulator
188	**PI Integ HLim** The high limit of the integral gain channel for the Process Control regulator. A value of 1 can represent either base motor speed, motor rated torque, or 100% for some external function.	Units: Default: Min: Max: Type: File: Group:	P.U. 0.1 0 8 Linkables Read-Write, Floating Point Process Control Regulator
189	**PI Integ LLim** The low limit of the integral gain channel for the Process Control regulator. A value of 1 can represent either base motor speed, motor rated torque, or 100% for some external function.	Units: Default: Min: Max: Type: File: Group:	P.U. -0.1 -8 0 Linkable, Read-Write, Floating Point Process Control Regulator
190	**PI Integ Output** Displays the output value of the integral channel of the Process Control regulator. A value of 1 can represent either base motor speed, motor rated torque, or 100% for some external function.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Non-Linkable, Read Only, Floating Point Process Control Regulator
191	**PI High Limit** The high limit of the Process Control regulator output. A value of 1 can represent either base motor speed, motor rated torque, or 100% for some external function.	Units: Default: Min: Max: Type: File: Group:	P.U. 0.1 0 8 Linkable, Read-Write, Floating Point Process Control Regulator
192	**PI Lower Limit** The low limit of the Process Control regulator output. A value of 1 can represent either base motor speed, motor rated torque, or 100% for some external function.	Units: Default: Min: Max: Type: File: Group:	P.U. -0.1 -8 0 Linkable, Read-Write, Floating Point Process Control Regulator

No.	Name Description	Values		
193	**PI TP Sel** Enter or write a value to select Process Control PI data displayed by parameter 194 [PI TP Data].	Default:	Val 0	Zero
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10	Zero PI Error LPF Output P Gain Term Reg Output On Intg Lim On Out Limit Extern Hold Hold Status Enabl Status Time Axis En
		File: Group:	Utility Test Points	
194	**PI TP Data** Displays the data selected by parameter 193 [PI TP Sel].	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Non-Linkable, Read Only, Floating Point Utility Test Points	
200	**Time Axis Rate** Sets rate (1/sec) for the Time Function Generator to ramp from and output of 0 to 1 and from 1 to 0.	Units: Default: Min: Max: Type: File: Group:	/Sec 1 0.01 20 Linkable, Read-Write, Floating Point Process Control Limit Generator	
201	**Time Axis Output** The output of the Time Function Generator. When the Time Function Generator is enabledby parameter 183 [PI Command] bit 1 or parameter 151 [Logic Command] bit 3, the value of this parameter ramps from 0 to 1 at a rate determined by parameter 200 [Time Axis Rate]. Conversely, when the Function Generator is disabled, the value of this parameter ramps from 1 to 0.	Default: Min: Max: Type: File: Group:	0 0 1 Non-Linkable, Read Only, Floating Point Process Control Limit Generator	
204	**LimGen Y axis Mx** Sets parameter 207[Limit Gen Hi Out] and parameter 208 [Limit Gen Lo Out] when the absolute value of parameter 206 [LimGen X axis in] is greater than or equal to 1.	Units: Default: Min: Max: Type: File: Group:	P.U. 0.25 0 8 Linkable, Read-Write, Floating Point Process Control Limit Generator	
205	**LimGen Y axis Mn** Sets [Limit Gen Hi Out] and [Limit Gen Lo Out] when the absolute value of [LimGen X axis in] is equal to 0.	Units: Default: Min: Max: Type: File: Group:	P.U. 0.05 0 8 Linkable, Read-Write, Floating Point Process Control Limit Generator	

No.	Name Description	Values	
206	**LimGen X axis In** The x axis input to the Limit Generator. Typically this parameter is linked to a speed reference or to parameter 201 [Time Axis Output].	Default: Min: Max: Type: File: Group:	0 -8 8 Linkable, Read-Write, Floating Point Process Control Limit Generator
207	**Limit Gen Hi Out** Indicates the positive output of the Limit Generator. When parameter 206 [Limit Gen X Axis In] is greater than or equal to 1, this value equals parameter 204 [Limit Gen Y axis Mx]. When parameter 206 [Limit Gen X Axis In] is equal to 0, this value equals parameter 205 [Limit Gen Y axis Mn]. For values of x Axis input between 0 and 1, the value of this parameter is interpolated from Y axis min and max values. Typically it is linked to parameter 188 [PI High Limit].	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Non-Linkable, Read Only, Floating Point Process Control Limit Generator
208	**Limit Gen Lo Out** Indicates the negative output of the Limit Generator. The value of this parameter is the negative of parameter 207 [Limit Gen Hi Out]. Typically it is linked to parameter 189 [PI Lower Limit].	Units: Default: Min: Max: Type: File: Group:	P.U. -8 -8 0 Non-Linkable, Read Only, Floating Point Process Control Limit Generator
210	**PeakDtct Ctrl In** Sets configuration of the two peak/level detectors. • Set mode is a level detector which causes the output to match the preset when the input exceeds the preset. • Hold mode is a level detector which causes the output to match the input, the moment it detects the input exceeding the preset. • Regular peak detection (when set and hold are off) causes the output to match the input at the moment a peak is detected. • Sel determines if the peak/level detector is positive of negative. If the bit is set the detector detects positive peaks or levels above the preset. If the bit is not set the detector detects negative "valleys" or levels below the preset.	Default: Options: File: Group:	0000 0000 Bit 0 Peak 1 Set Bit 1 Peak 1 Hold Bit 2 Peak 1 Sel Bit 3 Reserved Bit 4 Peak 2 Set Bit 5 Peak 2 Hold Bit 6 Peak 2 Sel Bit 7 Reserved Utility Peak Detection
211	**Peak Ctrl Status** Status of peak/level detectors. A peak detector sets its bit when it detects a peak or when its input exceeds its preset - depending on mode.	Default: Options: File: Group:	0000 0000 Bit 0 Peak 1 Ch Bit 1 Peak 2 Chng Bit 2 Reserved Bit 3 Reserved Bit 4 Reserved Bit 5 Reserved Bit 6 Reserved Bit 7 Reserved Utility Peak Detection

No.	Name Description	Values	
212	**PeakDtct1 In Int** Integer input to the first peak/level detector.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer Utility Peak Detection
213	**PkDtct1 In Real** Floating point input to the first peak/level detector	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Utility Peak Detection
214	**PeakDtct1 Preset** With the first detector (in set or hold modes) compares this value to its input for level detection. When the detector trips (in set mode) it transfers the value of this parameter to its output.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Utility Peak Detection
215	**PeakDetect1 Out** Output from the first peak/level detector.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Utility Peak Detection
216	**PeakDtct2 In Int** Integer input to second peak/level detector.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer Utility Peak Detection
217	**PkDtct2 In Real** Floating point input to second peak/level detector	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Utility Peak Detection
218	**PeakDtct2 Preset** With the second detector (in set or hold modes) compares this value to its input for level detection. When the detector trips (in set mode) it transfers the value of this parameter to its output.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Utility Peak Detection
219	**Spd Obs Trq Gain** Multiplication factor for the inertia input to the Speed Observer. If the specified inertia differs from actual, this is used to fine tune the inertia value input to the observer. Normally set to 1.	Default: Min: Max: Type: File: Group:	1 0 2 Linkable, Read-Write, Floating Point Speed/Posit Fdbk Feedback Config

No.	Name Description	Values		
220	**Spd Observer BW** Sets the internal bandwidth for the speed feedback observer. The setting should be as high a possible, preferrably at least 6 times the value of parameter 90 [Spd Reg BW]. A setting of 1000 rad/sec is reasonable for most applications. The speed observer is bypassed when set to zero.	Units: Default: Min: Max: Type: File: Group:	R/S 0 0 300 Linkable, Read-Write, Floating Point Speed/Posit Fdbk Feedback Config	
221	**Load Estimate** Displays the estimated load torque, which is the side effect of the speed observer and does not include torque to accelerate or decelerate the motor if the inertia input is correct. The value is provided for display purposes.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Non-Linkable, Read Only, Floating Point Speed/Posit Fdbk Feedback Config	
222	**Motor Fdbk Sel** Enter or write a value to select the primary motor speed feedback device.	Default:	Val 0	Resolver
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5	Resolver Analog Tach Reserved Reserved Motor Sim Mtr Voltage
		File: Group:	Speed/Posit Fdbk Feedback Config	
227	**PeakDetect2 Out** Output from the second peak/level detector.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable Read Only Floating Point Utility Peak Detection	
230	**Resolver SpdFdbk** Displays speed feedback from the resolver. Select resolver by entering a value of 0 in of parameter 222 [Motor Fdbk Sel]. Configure the resolver with parameter 2201 [PMI I/O Confg].	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read Only, Floating Point Speed/Posit Fdbk Resolver	
231	**Resolver PositFB** Indicates accumulated position feedback generated by the resolver. This parameter supplies position regulator feedback if postion control is enabled.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Non-Linkable, Read Only, 16-bit Integer Speed/Posit Fdbk Resolver	
240	**Anlg Tach Spd FB** Displays speed feedback from an analog tach. Select analog tach by entering a value of 2 in of parameter 222 [Motor Fdbk Sel].	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read Only, Floating Point Speed/Posit Fdbk Analog Tach	

No.	Name Description	Values	
241	**Anlg Tach Posit** Indicates accumulated position feedback generated by the analog tach. This parameter supplies position regulator feedback if postion control is enabled.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Speed/Posit Fdbk Analog Tach
242	**Arm Volts Spd FB** Displays speed feedback from armature voltage. Select analog tach by entering a value of 6 in of parameter 222 [Motor Fdbk Sel]. Armature Voltage Feedback is calculated using parameter 2137[Arm Volt FB Cnts] parameter 2151 [Arm Resistance], and parameter 2127 [CML Feedback].	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read Only, Floating Point Speed/Posit Fdbk Armature Volts
243	**Arm Volts Posit** Indicates accumulated position feedback generated by armature voltage feedback. This parameter supplies position regulator feedback if postion control is enabled.	Units: Default: Min: Max: Type: File: Group:	 0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Speed/Posit Fdbk Armature Volts
300	**Motor Spd Fdbk** Displays measured motor speed information from the selected feedback device. A value of 1.0 represents base speed of the motor.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read Only, Floating Point Monitor, Speed Control, Speed/Posit Fdbk Metering, Regulator, Feedback Config
301	**Motor Speed Ref** Displays the speed reference value, after the limit function. This is the input to the error calculator and speed regulator. A value of 1.0 represents base speed of the motor.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read Only, Floating Point Speed Control Regulator
302	**Spd Reg PI Out** Displays the output of the speed regulator. This is the input to torque control. A value of 1.0 represents base Torque of the motor.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Non-Linkable Read Only, Floating Point Speed Control, Torque Control Regulator, Torque
303	**Motor Torque Ref** Displays the calculated value of motor torque. The actual value of the motor torque is within 5% of this value.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Non-Linkable, Read Only, Floating Point Torque Control Torque

No.	Name Description	Values		
304	**Limit Status** Indicates any condition that may be limiting either the current or the torque reference. • Setting parameter 120 [Current PosLimit] and the absolute value of parameter 119 [Current NegLimit] less than parameter 2184 [PMI Curr Lim] will result in bits 4 and 20 indicating a current limit condition. • Setting parameter 2184 [PMI Curr Lim] less than parameter 120 [Current PosLimit] and the absolute value of parameter 119 [Current NegLimit] will result in bits 9 and 25 indicating a current limit condition.	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15 Bit 16 Bit 17 Bit 18 Bit 19 Bit 20 Bit 21 Bit 22 Bit 23 Bit 24 Bit 25 Bit 26 Bit 27 Bit 28 Bit 29 Bit 30 Bit 31	Reserved Reserved Reserved Reserved =+Current Lim Reserved Reserved Reserved Reserved PMI Curr Lim Reserved Atune Tq Lim Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved =-Current Lim Reserved Reserved Reserved Reserved Regen PwrLim Reserved Reserved Reserved Reserved Reserved Reserved
		File: Group:	Utility Diagnostics	
305	**Mtr TorqCurr Ref** Displays the value of torque current reference that is present at the output of the current rate limiter. 100% is equal to 1 per unit (pu) rated motor torque.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Non-Linkable, Read OnlyFloating Point Torque Control Current	
307	**Output Voltage** Displays the actual line-to-line fundamental RMS value of motor voltage. This data is averaged and updated every 50 milliseconds.	Units: Default: Min: Max: Type: File: Group:	Volt 0 -1350 1350 Non-Linkable, Read Only, Floating Point Monitor, DPS/PMI Metering, Feedback	

No.	Name Description	Values		
308	**Output Current** Displays the actual RMS value of the motor current as determined from the current sensors.	Units: Default: Min: Max: Type: File: Group:	Amps 0 -6000 6000 Non-Linkable, Read Only, Floating Point Monitor, DPS/PMI Metering, Feedback	
314	**VPL Firmware Rev** Indicates the major and minor revision levels of the drive module's Velocity Position Loop (VPL) firmware.	Default: Min: Max: Type: File: Group:	x.xxx 0.001 65.255 Non-Linkable, Read Only, 16-bit Integer Monitor Drive Data	
315	**VPL Build Number** Indicates the build number of the drive module's Velocity Position Loop (VPL) firmware.	Default: Min: Max: Type:	x 1 10000 Non-Linkable, Read Only, 16-bit Integer	
316	**SynchLink Status** Indicates status of SynchLink functions.	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15 Bit 16 Bit 17 Bit 18 Bit 19 Bit 20 Bti 21 Bit 22 Bit 23 Bit 24 Bit 25 Bit 26 Bit 27 Bit 28 Bit 29 Bit 30 Bit 31	Reserved Reserved Reserved In Sync Tx Active Rx Active Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Rx Data Enbl Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved
		File: Group:	Utility Diagnostics	

No.	Name Description	Values		
317	**SL System Time** Displays the SynchLink system time counter.	Units: Default: Min: Max: Type: File: Group:	uSec 0 0 1048575 Non-Linkable, Read Only, 32-bit Integer Monitor Control Status	
318	**Posit Spd Output** Final output of the position regulator. A value of 1.0 represents base speed of the motor.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read Only, Floating Point Position Control, Position Control, Position Control Sync Generator, Interp/Direct, Point to Point	
320	**Exception Event1** Indicates the presence of certain drive anomalies. Configure the drive's response to these events by entering values in the parameters of the fault/alarm configuration group of the utility file.	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15 Bit 16 Bit 17 Bit 18 Bit 19 Bit 20 Bit 21 Bit 22 Bit 23 Bit 24 Bit 25 Bit 26 Bit 27 Bti 28 Bit 29 Bit 30 Bti 31	Abs OverSpd SpdRef Decel Reserved Reserved Reserved Reserved Ctrl EE Mem SLink HW SLink Comm Reserved Mtr OL Trip Mtr OL Pendg Motor Stall Reserved Reserved Reserved Reserved Reserved DSP Mem Err DSP Error Inertia Test Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved
		File: Group:	Utility Diagnostics	

No.	Name Description	Values		
321	**Exception Event2** Indicates the presence of certain drive anomalies. Configure the drive's response to these events by entering values in the parameters of the fault/alarm configuration group of the utility file.	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options:	Bit 0	Reserved
			Bit 1	Reserved
			Bit 2	Reserved
			Bit 3	Reserved
			Bit 4	Reserved
			Bit 5	Reserved
			Bit 6	Reserved
			Bit 7	Slink Mult
			Bit 8	Reserved
			Bit 9	Reserved
			Bit 10	Reserved
			Bit 11	Reserved
			Bit 12	Reserved
			Bit 13	Reserved
			Bit 14	Reserved
			Bit 15	Reserved
			Bit 16	Reserved
			Bit 17	Reserved
			Bit 18	Reserved
			Bit 19	Reserved
			Bit 20	Reserved
			Bit 21	Reserved
			Bit 22	Reserved
			Bit 23	Reserved
			Bit 24	Reserved
			Bit 25	Reserved
			Bit 26	Drv Fault
			Bit 27	Drv Warning
			Bit 28	Lgx OutOfRun
			Bit 29	Lgx Timeout
			Bit 30	Lgx Closed
			Bit 31	Lgx LinkChng
		File: Group:	Utility Diagnostics	

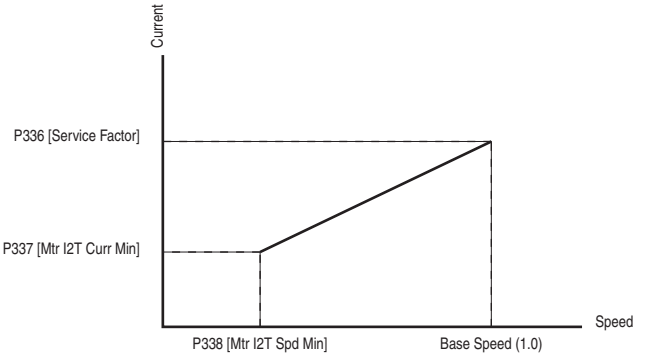
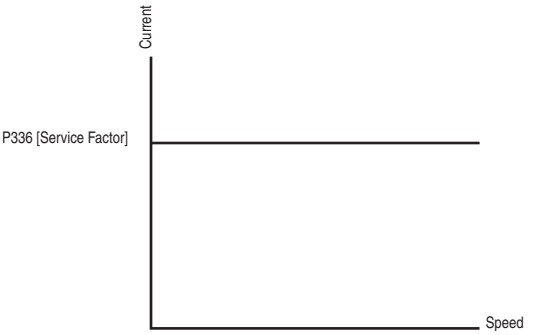
No.	Name Description	Values		
323	**Fault Status 1** Indicates the occurance of the exception events that have been configured as fault conditions. These are the same events shown in parameter 320 [Exception Event1].	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options:	Bit 0	Abs OverSpd
			Bit 1	Ref Decel
			Bit 2	Reserved
			Bit 3	Reserved
			Bit 4	Reserved
			Bit 5	Reserved
			Bit 6	Ctrl EE Mem
			Bit 7	SLink HW
			Bit 8	SLink Comm
			Bit 9	Reserved
			Bit 10	Mtr OL Trip
			Bit 11	Mtr OL Pendg
			Bit 12	Motor Stall
			Bit 13	Reserved
			Bit 14	Reserved
			Bit 15	Reserved
			Bit 16	Reserved
			Bit 17	Reserved
			Bit 18	DSP Mem Err
			Bit 19	DSP Error
			Bit 20	Inertia Test
			Bit 21	Reserved
			Bit 22	Reserved
			Bit 23	Reserved
			Bit 24	Reserved
			Bit 25	Reserved
			Bit 26	Reserved
			Bit 27	Reserved
			Bit 28	Reserved
			Bit 29	Reserved
			Bit 30	Reserved
			Bit 31	Reserved
		File: Group:	Utility Diagnostics	

No.	Name Description	Values		
324	**Fault Status 2** Indicates the occurance of the exception events that have been configured as fault conditions. These are the same events shown in parameter 321 [Exception Event2].	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options:	Bit 0	Reserved
			Bit 1	Reserved
			Bit 2	Reserved
			Bit 3	Reserved
			Bit 4	Reserved
			Bit 5	Reserved
			Bit 6	Reserved
			Bit 7	Slink Mult
			Bit 8	Reserved
			Bit 9	Reserved
			Bit 10	Reserved
			Bit 11	Reserved
			Bit 12	Reserved
			Bit 13	Reserved
			Bit 14	Reserved
			Bit 15	Reserved
			Bit 16	Reserved
			Bit 17	Reserved
			Bit 18	Reserved
			Bit 19	Reserved
			Bit 20	Reserved
			Bit 21	Reserved
			Bit 22	Reserved
			Bit 23	Reserved
			Bit 24	Reserved
			Bit 25	Reserved
			Bit 26	Dry Fault
			Bit 27	Dry Warning
			Bit 28	Lgx OutOfRun
			Bit 29	Lgx Timeout
			Bit 30	Lgx Closed
			Bit 31	Lgx LinkChng
		File: Group:	Utility Diagnostics	

No.	Name Description	Values		
326	**Alarm Status 1** Indicates the occurance of the exception events that have been configured as alarm conditions. These are the same events shown in parameter 320 [Exception Event1].	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options:	Bit 0	Abs OverSpd
			Bit 1	SpdRef Decel
			Bit 2	Reserved
			Bit 3	Reserved
			Bit 4	Reserved
			Bit 5	Reserved
			Bit 6	Ctrl EE Mem
			Bit 7	SLink HW
			Bit 8	SLink Comm
			Bit 9	Reserved
			Bit 10	Mtr OL Trip
			Bit 11	Mtr OL Pendg
			Bit 12	Motor Stall
			Bit 13	Reserved
			Bit 14	Reserved
			Bit 15	Reserved
			Bit 16	Reserved
			Bit 17	Reserved
			Bit 18	DSP Mem Err
			Bit 19	DSP Error
			Bit 20	Inertia Test
			Bit 21	Reserved
			Bit 22	Reserved
			Bit 23	Reserved
			Bit 24	Reserved
			Bit 25	Reserved
			Bit 26	Reserved
			Bit 27	Reserved
			Bit 28	Reserved
			Bit 29	Reserved
			Bit 30	Reserved
			Bit 31	Reserved
		File: Group:	Utility Diagnostics	

No.	Name Description	Values		
327	**Alarm Status 2** Indicates the occurance of the exception events that have been configured as alarm conditions. These are the same events shown in parameter 321 [Exception Event2].	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15 Bit 16 Bit 17 Bit 18 Bit 19 Bit 20 Bit 21 Bit 22 Bit 23 Bit 24 Bit 25 Bit 26 Bit 27 Bit 28 Bit 29 Bit 30 Bit 31	Reserved Reserved Reserved Reserved Reserved Reserved Reserved Slink Mult Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Drv Fault Drv Warning Lgx OutOfRun Lgx Timeout Lgx Closed Lgx LinkChng
		File: Group:	Utility Diagnostics	
329	**Fault TP Sel** Enter or write a value to select Fault data data displayed in parameter 330 [Fault TP Data].	Default	Val 0	Zero
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13	Zero Abs OverSpd Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved VPL FltReset Reserved Mtr OL Input Mtr OL Outpt
		File: Group:	Utility Test Points	

No.	Name Description	Values	
330	**Fault TP Data** Displays the data selected by parameter 329 [Fault TP Sel].	Units: Default: Min: Max: Type: File: Group:	0 0 -2200000000 2200000000 Non-Linkable Read Only Floating Point Utility Test Points
335	**Abs OverSpd Lim** Sets an incrmental speed above parameter 31 [Fwd Speed Limit] and below parameter 30 [Rev Speed Limit] that is allowable before the drive indicates its speed is out of range.	Units: Default: Min: Max: Type: File: Group:	RPM 350 0 1750 Non-Linkable, Read-Write, Floating Point Dynamic Control Dynamic Control
336	**Service Factor** Sets the minimum level of current that causes a motor overload trip under continuous operation. Current levels below this value will not result in an overload trip. For example, a service factor of 1.15 implies continuous operation up to 115% of nameplate motor current.	Units: Default: Min: Max: Type: File: Group:	P.U. 1.15 1 2 Non-Linkable, Read-Write, Floating Point Dynamic Control Overload Protect
337	**Mtr I2T Curr Min** Sets the minimum current threshold for the motor overload (I^2T) function. The value indicates minimum current at the minimum speed, parameter 338 [Mtr I2T Spd Min], and these are the first current/speed breakpoint. From this point the current threshold is linear to the value specified by parameter 336 [Service Factor].	Units: Default: Min: Max: Type: File: Group:	P.U. 0.5 0.05 1 Non-Linkable, Read-Write, Floating Point Dynamic Control Overload Protect

No.	Name Description	Values	
338	**Mtr I2T Spd Min** Sets the minimum speed for the motor overload (I^2T) function. The value indicates minimum speed below the minimum current threshold [Mtr I2T Curr Min], and these are the first current/speed breakpoint. From this point the current threshold is linear to the value specified by the motor service factor [Service Factor].	Units: Default: Min: Max: Type: File: Group:	P.U. 1 0.05 1 Non-Linkable, Read-Write, Floating Point Dynamic Control Overload Protect
	Motor Overload curve when parameter 338 [Mtr I2T Spd Min] is Less Than 1.0  When motor current exceeds the value of the curve,Mtr OL Outpt integrates. If the value in Mtr OL Outpt reaches 1.0, a motor overload exception event occurs. The value of Mtr OL Outpt is visable in parameter 330 [Fault TP Data] when the value of parameter 329 [Fault TP Sel] equals 13.		
	Motor Overload curve when parameter 338 [Mtr I2T Spd Min] Equals 1.0  When the value of parameter 338 [Mtr I2T Spd Min] equals 1.0, the curve is flat - at the value of rated motor current times the value of parameter 336 [Service Factor]. If motor current exceeds the value of the curve [Service Factor], the value of Mtr OL Outpt integrates.		
339	**Mtr I2T Calibrat** Sets the current calibration level for the motor overload (I^2T) function. The value indicates the current level that the drive will fault at this current in 60 seconds.	Units: Default: Min: Max: Type: File: Group:	P.U. 2 1.1 4 Non-Linkable, Read-Write, Floating Point Dynamic Control Overload Protect
340	**Mtr I2T Trp ThrH** Displays the trip threshold current for the motor overload (I^2T) function. The value depends on the motor speed, and is calculated from the minimum current, parameter 337 [Mtr I2T Curr Min], the minimum speed, parameter 338 [Mtr I2T Spd Min] and the motor service factor, parameter 336 [Service Factor].	Units: Default: Min: Max: Type: File: Group:	P.U. 1.15 0.05 2 Non-Linkable, Read Only, Floating Point Dynamic Control Overload Protect

No.	Name Description	Values	
350	**Current Actl Ref** Displays the value of motor current reference that is present at the output of the divide by flux calculation.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Non-Linkable, Read Only, Floating Point Torque Control Current
351	**Current Ref Trim** Provides an external source to command, trim or offset the internal motor current reference. This value is summed with parameter 351 [Current Actl Ref] before the current limit is applied. Scaling is in per unit motor current.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Linkable, Read-Write, Floating Point Torque Control Current
354	**Curr Rate Limit** The maximum rate of change for Current Reference, in per unit current/ sec. Parameter 90 [Spd Reg BW] will be limited to 2/3 of this value.	Units: Default: Min: Max: Type: File: Group:	/Sec 50 10 2000 Linkable, Read-Write, Floating Point Torque Control Current
355	**Curr RateLimited** The current reference output of the rate limiter.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Non-Linkable, Read Only, Floating Point Torque Control Current
360	**Min Flux** Sets the smallest level of flux used to convert parameter 303 [Motor Torque Ref] to a current reference above base speed.	Units: Default: Min: Max: Type: File: Group:	P.U. 1 0.1 1 Linkable, Read-Write, Floating Point Torque Control Current
361	**Flux LpassFlt BW** Sets bandwidth of filter which adjusts the response of the flux estimate used in the torque to current conversion. Since the field time constant varies between motors a better control response may be obtained by adjusting the filter time constant. Normally this parameter is not changed unless a significant disturbance occurs as the motor enters field weakening AND parameter 360 [Min Flux] is less than 1 per unit.	Units: Default: Min: Max: Type: File: Group:	R/S 20 0.5 100 Linkable, Read-Write, Floating Point Torque Control Current
362	**Motor Flux** The motor flux value used to calculate motor current reference from parameter 303 [Motor Torque Ref]. For operation above base speed, this value should be linked to the output of a flux curve in the ControlLogix controller. A value of 1.0 represents rated motor flux.	Units: Default: Min: Max: Type: File: Group:	P.U. 1 -8 8 Linkable, Read-Write, Floating Point Torque Control Current

No.	Name Description	Values		
363	**Curr Ref TP Sel** Enter or write a value to select current reference data displayed in parameter 364 [Curr Ref TP Data].	Default	Val 0	Zero
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14	Zero Curr Sum Curr Lim In Curr Lim Out CurrRateStat Limited Flux Reserved Reserved Max Curr Lim Reserved Curr-LimActl Curr+LimActl Reserved Flux Status Flux LPF Out
		File: Group:	Utility Test Points	
364	**Curr Ref TP Data** Displays the data selected by parameter 363 [Curr Ref TP Sel].	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Non-Linkable, Read Only, Floating Point Utility Test Points	

No.	Name Description	Values		
369	**SL CommLoss Cnfg** Enter a value to configures the drive's response to SynchLink communication loss. Refer to parameter 1229 [SL Error Status] for possible causes of communication loss. • Value 0 - Ignore configures the drive module to continue running as normal, in response to this event • Value 1 - Alarm configures the drive module to set the appropriate alarm bit in response to this event • Value 2 - FltCoastStop configures the drive module to perform a coast stop and set the appropriate fault bit in response to this event • Value 3 - FltRampStop configures the drive module to perform a ramp stop and set the appropriate fault bit in response to this event • Value 4 - CurLimStp configures the drive module to perform a current limit stop and set the appropriate fault bit in response to this event	Default	Val 2	FltCoastStop
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4	Ignore Alarm FltCoastStop FltRampStop FltCurLimStp
		File: Group:	Utility Fault/Alm Config	

ATTENTION

Risk of injury or equipment damage exists. Parameter 369 [SL CommLoss Cnfg] lets you determine the action of the drive if communications are disrupted. By default this parameter causes the drive to fault and coast to a stop. You can set this parameter so that the drive continues to run. Precautions should be taken to ensure that the setting of this parameter does not create a hazard of injury or equipment damage.

370	**SL CommLoss Data** Enter a value to determine what is done with the data received from SynchLink when a communication loss occurs. • Value 0 - Zero Data configures the drive module to reset the data to zero, in response to this event • Value 1 - Alarm configures the drive module hold the data in its last state, in response to this event	Default	Val 1	Last State
		Options:	Val 0 Val 1	Zero Data Last State
		File: Group:	Utility Fault/Alm Config	

ATTENTION

Risk of injury or equipment damage exists. Parameter 370 [SL CommLoss Data] lets you determine what the drive module does with received data if communications are disrupted. By default this parameter causes the drive module to hold the data in its last state. You can set this parameter so that the drive module resets the data to zero. Precautions should be taken to ensure that the setting of this parameter does not create a hazard of injury or equipment damage.

No.	Name Description	Values		
371	**Mtr OL Trip Cnfg** Enter a value to configure the drive's response to a "Motor Overload Trip" exception event. • Value 0 - Ignore configures the drive module to continue running as normal, in response to this event • Value 1 - Alarm configures the drive module to set the appropriate alarm bit in response to this event • Value 2 - FltCoastStop configures the drive module to perform a coast stop and set the appropriate fault bit in response to this event • Value 3 - FltRampStop configures the drive module to perform a ramp stop and set the appropriate fault bit in response to this event • Value 4 - CurLimStp configures the drive module to perform a current limit stop and set the appropriate fault bit in response to this event	Default	Val 2	FltCoastStop
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4	Ignore Alarm FltCoastStop FltRampStop FltCurLimStp
		File: Group:	Utility Fault/Alm Config	
372	**Mtr OL Pend Cnfg** Enter a value to configure the drive's response to a "Motor Overload Pending" exception event. • Value 0 - Ignore configures the drive module to continue running as normal, in response to this event • Value 1 - Alarm configures the drive module to set the appropriate alarm bit in response to this event • Value 2 - FltCoastStop configures the drive module to perform a coast stop and set the appropriate fault bit in response to this event • Value 3 - FltRampStop configures the drive module to perform a ramp stop and set the appropriate fault bit in response to this event • Value 4 - CurLimStp configures the drive module to perform a current limit stop and set the appropriate fault bit in response to this event	Default	Val 1	Alarm
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4	Ignore Alarm FltCoastStop FltRampStop FltCurLimStp
		File: Group:	Utility Fault/Alm Config	
373	**Motor Stall Time** Enter or write a value to specify the time delay between when the drive detects a "Motor Stall" condition and when it declares the exception evet.	Units: Default: Min: Max: Type: File: Group:	Sec 5 0.1 3000 Linkable, Read-Write, Floating Point Utility Fault/Alm Config	
374	**Motor Stall Cnfg** Enter a value to configure the drive's response to a "Motor Stall" exception event. • Value 0 - Ignore configures the drive module to continue running as normal, in response to this event • Value 1 - Alarm configures the drive module to set the appropriate alarm bit in response to this event • Value 2 - FltCoastStop configures the drive module to perform a coast stop and set the appropriate fault bit in response to this event	Default	Val 0	Ignore
		Options:	Val 0 Val 1 Val 2	Ignore Alarm FltCoastStop
		File: Group:	Utility Fault/Alm Config	

No.	Name Description	Values		
381	**PMI Warning Cnfg** Enter a value to configure the drive's response to a "PMI Warning" exception event (events enumerated in parameter 2123 [MC Warnings]. • Value 0 - Ignore configures the drive module to continue running as normal, in response to this event • Value 1 - Alarm configures the drive module to set the appropriate alarm bit in response to this event • Value 2 - FltCoastStop configures the drive module to perform a coast stop and set the appropriate fault bit in response to this event • Value 3 - FltRampStop configures the drive module to perform a ramp stop and set the appropriate fault bit in response to this event • Value 4 - CurLimStp configures the drive module to perform a current limit stop and set the appropriate fault bit in response to this event	Default	Val 1	Alarm
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4	Ignore Alarm FltCoastStop FltRampStop FltCurLimStp
		File: Group:	Utility Fault/Alm Config	
382	**Lgx OutOfRunCnfg** Enter a value to configure the drive's response to the ControlLogix processor being in Non-Run mode. Non-Run modes include Program, Remote-Program and Faulted. • Value 0 - Ignore configures the drive module to continue running as normal, in response to this event • Value 1 - Alarm configures the drive module to set the appropriate alarm bit in response to this event • Value 2 - FltCoastStop configures the drive module to perform a coast stop and set the appropriate fault bit in response to this event • Value 3 - FltRampStop configures the drive module to perform a ramp stop and set the appropriate fault bit in response to this event • Value 4 - CurLimStp configures the drive module to perform a current limit stop and set the appropriate fault bit in response to this event	Default	Val 2	FltCoastStop
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4	Ignore Alarm FltCoastStop FltRampStop FltCurLimStp
		File: Group:	Utility Fault/Alm Config	

ATTENTION

Risk of injury or equipment damage exists. Parameter 382 [Lgx OutOfRunCnfg] lets you determine the action of the drive if communications are disrupted. By default this parameter causes the drive to fault and coast to a stop. You can set this parameter so that the drive continues to run. Precautions should be taken to ensure that the setting of this parameter does not create a hazard of injury or equipment damage.

No.	Name Description	Values		
383	**Lgx Timeout Cnfg** Enter a value to configure the Drive Module's response to a Controller to Drive Module connection timeout, as detected by the Drive Module. • Value 0 - Ignore configures the drive module to continue running as normal, in response to this event • Value 1 - Alarm configures the drive module to set the appropriate alarm bit in response to this event • Value 2 - FltCoastStop configures the drive module to perform a coast stop and set the appropriate fault bit in response to this event • Value 3 - FltRampStop configures the drive module to perform a ramp stop and set the appropriate fault bit in response to this event • Value 4 - CurLimStp configures the drive module to perform a current limit stop and set the appropriate fault bit in response to this event	Default	Val 2	FltCoastStop
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4	Ignore Alarm FltCoastStop FltRampStop FltCurLimStp
		File: Group:	Utility Fault/Alm Config	

ATTENTION

Risk of injury or equipment damage exists. Parameter 383 [Lgx Timeout Cnfg] lets you determine the action of the drive if communications are disrupted. By default this parameter causes the drive to fault and coast to a stop. You can set this parameter so that the drive continues to run. Precautions should be taken to ensure that the setting of this parameter does not create a hazard of injury or equipment damage.

No.	Name Description	Values		
384	**Lgx Closed Cnfg** Enter a value to configure the Drive Module's response to the controller closing the Controller to Drive Module connection. • Value 0 - Ignore configures the drive module to continue running as normal, in response to this event • Value 1 - Alarm configures the drive module to set the appropriate alarm bit in response to this event • Value 2 - FltCoastStop configures the drive module to perform a coast stop and set the appropriate fault bit in response to this event • Value 3 - FltRampStop configures the drive module to perform a ramp stop and set the appropriate fault bit in response to this event • Value 4 - CurLimStp configures the drive module to perform a current limit stop and set the appropriate fault bit in response to this event	Default	Val 2	FltCoastStop
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4	Ignore Alarm FltCoastStop FltRampStop FltCurLimStp
		File: Group:	Utility Fault/Alm Config	

ATTENTION

Risk of injury or equipment damage exists. Parameter 384 [Lgx Closed Cnfg] lets you determine the action of the drive if communications are disrupted. By default this parameter causes the drive to fault and coast to a stop. You can set this parameter so that the drive continues to run. Precautions should be taken to ensure that the setting of this parameter does not create a hazard of injury or equipment damage.

No.	Name Description	Values		
385	**Lgx LinkChngCnfg** Enter a value to configure the Drive Module's response to Controller to Drive Module default links being removed. A default link is a link automatically set up when a communication format is selected for the Controller to Drive Module connection. • Value 0 - Ignore configures the drive module to continue running as normal, in response to this event • Value 1 - Alarm configures the drive module to set the appropriate alarm bit in response to this event • Value 2 - FltCoastStop configures the drive module to perform a coast stop and set the appropriate fault bit in response to this event • Value 3 - FltRampStop configures the drive module to perform a ramp stop and set the appropriate fault bit in response to this event • Value 4 - CurLimStp configures the drive module to perform a current limit stop and set the appropriate fault bit in response to this event	Default	Val 2	FltCoastStop
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4	Ignore Alarm FltCoastStop FltRampStop FltCurLimStp
		File: Group:	Utility Fault/Alm Config	

ATTENTION

Risk of injury or equipment damage exists. Parameter 385 [Lgx LinkChngCnfg] lets you determine the action of the drive if communications are disrupted. By default this parameter causes the drive to fault and coast to a stop. You can set this parameter so that the drive continues to run. Precautions should be taken to ensure that the setting of this parameter does not create a hazard of injury or equipment damage.

386	**Lgx CommLossData** Enter a value to configure what Drive Module does with the data received from the controller when the connection is closed or times out. • Value 0 - Zero Data configures the drive module to reset the data to zero, in response to this event • Value 1 - Alarm configures the drive module hold the data in its last state, in response to this event	Default	Val 1	Last State
		Options:	Val 0 Val 1	Zero Data Last State
		File: Group:	Utility Fault/Alm Config	

ATTENTION

Risk of injury or equipment damage exists. Parameter 386 [Lgx CommLossData] lets you determine what the drive module does with received data if communications are disrupted. By default this parameter causes the drive module to hold the data in its last state. You can set this parameter so that the drive module resets the data to zero. Precautions should be taken to ensure that the setting of this parameter does not create a hazard of injury or equipment damage.

No.	Name Description	Values		
387	**SL MultErr Cnfg** Enter a value to configure the Drive Module's response to SynchLink Multiplier error. Refer to parameter 1034 [SL Mult State] for possible causes for multiplier errors. • Value 0 - Ignore configures the drive module to continue running as normal, in response to this event • Value 1 - Alarm configures the drive module to set the appropriate alarm bit in response to this event • Value 2 - FltCoastStop configures the drive module to perform a coast stop and set the appropriate fault bit in response to this event • Value 3 - FltRampStop configures the drive module to perform a ramp stop and set the appropriate fault bit in response to this event • Value 4 - CurLimStp configures the drive module to perform a current limit stop and set the appropriate fault bit in response to this event	Default	Val 2	FltCoastStop
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4	Ignore Alarm FltCoastStop FltRampStop FltCurLimStp
		File: Group:	Utility Fault/Alm Config	

ATTENTION

Risk of injury or equipment damage exists. Parameter 387 [SL MultErr Cnfg] lets you determine the action of the drive if communications are disrupted. By default this parameter causes the drive to fault and coast to a stop. You can set this parameter so that the drive continues to run. Precautions should be taken to ensure that the setting of this parameter does not create a hazard of injury or equipment damage.

396	**User Data 1** General purpose parameter available for storage of 32 bit integer data by the operator. This value will be retained through a power cycle.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Write, 32-bit Integer Utility User Selections
397	**User Data 2** General purpose parameter available for storage of 32 bit integer data by the operator. This value will be retained through a power cycle.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Write, 32-bit Integer Utility User Selections

No.	Name Description	Values	
398	**User Data 3** General purpose parameter available for storage of 32 bit enumerated data by the operator. This value will be retained through a power cycle.	Default:	0000 0000 0000 0000 0000 0000 0000 0000
		Options:	Bit 0 Reserved Bit 1 Reserved Bit 2 Reserved Bit 3 Reserved Bit 4 Reserved Bit 5 Reserved Bit 6 Reserved Bit 7 Reserved Bit 8 Reserved Bit 9 Reserved Bit 10 Reserved Bit 11 Reserved Bit 12 Reserved Bit 13 Reserved Bit 14 Reserved Bit 15 Reserved Bit 16 Reserved Bit 17 Reserved Bit 18 Reserved Bit 19 Reserved Bit 20 Reserved Bit 21 Reserved Bit 22 Reserved Bit 23 Reserved Bit 24 Reserved Bit 25 Reserved Bit 26 Reserved Bit 27 Reserved Bit 28 Reserved Bit 29 Reserved Bit 30 Reserved Bit 31 Reserved
		File: Group:	Utility User Selections
399	**User Data 4** General purpose parameter available for storage of floating point data by the operator. This value will be retained through a power cycle.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Write, Floating Point Utility User Selections
600	**Integer In00** Displays input word 00 of the controller communication format in integer format. Paired with parameter 601 [Real In00], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Inputs
601	**Real In00** Displays input word 00 of the controller communication format in floating point format. Paired with parameter 600 [Integer In00], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Inputs

No.	Name Description	Values	
602	**Integer In01** Displays input word 01 of the controller communication format in integer format. Paired with parameter 603 [Real In01], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Inputs
603	**Real In01** Displays input word 01 of the controller communication format in floating point format. Paired with parameter 602 [Integer In01], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Inputs
604	**Integer In02** Displays input word 02 of the controller communication format in integer format. Paired with parameter 605 [Real In02], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Inputs
605	**Real In02** Displays input word 02 of the controller communication format in floating point format. Paired with parameter 604 [Integer In02], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Inputs
606	**Integer In03** Displays input word 03 of the controller communication format in integer format. Paired with parameter 607 [Real In03], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Inputs
607	**Real In03** Displays input word 03 of the controller communication format in floating point format. Paired with parameter 606 [Integer In03], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Inputs
608	**Integer In04** Displays input word 04 of the controller communication format in integer format. Paired with parameter 609 [Real In04], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Inputs
609	**Real In04** Displays input word 04 of the controller communication format in floating point format. Paired with parameter 608 [Integer In04], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Inputs

No.	Name Description	Values	
610	**Integer In05** Displays input word 05 of the controller communication format in integer format. Paired with parameter 611 [Real In05], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Inputs
611	**Real In05** Displays input word 05 of the controller communication format in floating point format. Paired with parameter 610 [Integer In05], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Inputs
612	**Integer In06** Displays input word 06 of the controller communication format in integer format. Paired with parameter 613 [Real In06], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Inputs
613	**Real In06** Displays input word 06 of the controller communication format in floating point format. Paired with parameter 612 [Integer In06], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Inputs
614	**Integer In07** Displays input word 07 of the controller communication format in integer format. Paired with parameter 615 [Real In07], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Inputs
615	**Real In07** Displays input word 07 of the controller communication format in floating point format. Paired with parameter 614 [Integer In07], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Inputs
616	**Integer In08** Displays input word 08 of the controller communication format in integer format. Paired with parameter 617 [Real In08], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Inputs
617	**Real In08** Displays input word 08 of the controller communication format in floating point format. Paired with parameter 616 [Integer In08], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Inputs

No.	Name Description	Values	
618	**Integer In09** Displays input word 09 of the controller communication format in integer format. Paired with parameter 619 [Real In09], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Inputs
619	**Real In09** Displays input word 09 of the controller communication format in floating point format. Paired with parameter 618 [Integer In09], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Inputs
620	**Integer In10** Displays input word 10 of the controller communication format in integer format. Paired with parameter 621 [Real In10], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Inputs
621	**Real In10** Displays input word 10 of the controller communication format in floating point format. Paired with parameter 620 [Integer In10], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Inputs
622	**Integer In11** Displays input word 11 of the controller communication format in integer format. Paired with parameter 623 [Real In11], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Inputs
623	**Real In11** Displays input word 11 of the controller communication format in floating point format. Paired with parameter 622 [Integer In11], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Inputs
624	**Integer In12** Displays input word 12 of the controller communication format in integer format. Paired with parameter 625 [Real In12], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Inputs
625	**Real In12** Displays input word 12 of the controller communication format in floating point format. Paired with parameter 624 [Integer In12], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Inputs

No.	Name Description	Values	
626	**Integer In13** Displays input word 13 of the controller communication format in integer format. Paired with parameter 627 [Real In13], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Inputs
627	**Real In13** Displays input word 13 of the controller communication format in floating point format. Paired with parameter 626 [Integer In13], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Inputs
628	**Integer In14** Displays input word 14 of the controller communication format in integer format. Paired with parameter 629 [Real In14], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Inputs
629	**Real In14** Displays input word 14 of the controller communication format in floating point format. Paired with parameter 628 [Integer In14], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Inputs
630	**Integer In15** Displays input word 15 of the controller communication format in integer format. Paired with parameter 631 [Real In15], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Inputs
631	**Real In15** Displays input word 15 of the controller communication format in floating point format. Paired with parameter 630 [Integer In15], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Inputs
632	**Integer Out00** Displays output word 00 of the controller communication format in integer format. Paired with parameter 633 [Real Out00], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Outputs
633	**Real Out00** Displays output word 00 of the controller communication format in floating point format. Paired with parameter 632 [Integer Out00], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Outputs

No.	Name Description	Values	
634	**Integer Out01** Displays output word 01 of the controller communication format in integer format. Paired with parameter 635 [Real Out01], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Outputs
635	**Real Out01** Displays output word 01 of the controller communication format in floating point format. Paired with parameter 634 [Integer Out01], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Outputs
636	**Integer Out02** Displays output word 02 of the controller communication format in integer format. Paired with parameter 637 [Real Out02], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Outputs
637	**Real Out02** Displays output word 02 of the controller communication format in floating point format. Paired with parameter 636 [Integer Out02], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Outputs
638	**Integer Out03** Displays output word 03 of the controller communication format in integer format. Paired with parameter 639 [Real Out03], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Outputs
639	**Real Out03** Displays output word 03 of the controller communication format in floating point format. Paired with parameter 638 [Integer Out03], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Outputs
640	**Integer Out04** Displays output word 04 of the controller communication format in integer format. Paired with parameter 641 [Real Out04], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Outputs
641	**Real Out04** Displays output word 04 of the controller communication format in floating point format. Paired with parameter 640 [Integer Out04], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Outputs

No.	Name Description	Values	
642	**Integer Out05** Displays output word 05 of the controller communication format in integer format. Paired with parameter 643 [Real Out05], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Outputs
643	**Real Out05** Displays output word 05 of the controller communication format in floating point format. Paired with parameter 642 [Integer Out05], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Outputs
644	**Integer Out06** Displays output word 06 of the controller communication format in integer format. Paired with parameter 645 [Real Out06], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Outputs
645	**Real Out06** Displays output word 06 of the controller communication format in floating point format. Paired with parameter 644 [Integer Out06], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Outputs
646	**Integer Out07** Displays output word 07 of the controller communication format in integer format. Paired with parameter 647 [Real Out07], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Outputs
647	**Real Out07** Displays output word 07 of the controller communication format in floating point format. Paired with parameter 646 [Integer Out07], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Outputs
648	**Integer Out08** Displays output word 08 of the controller communication format in integer format. Paired with parameter 649 [Real Out08], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Outputs
649	**Real Out08** Displays output word 08 of the controller communication format in floating point format. Paired with parameter 648 [Integer Out08], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Outputs

No.	Name Description	Values	
650	**Integer Out09** Displays output word 09 of the controller communication format in integer format. Paired with parameter 651 [Real Out09], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Outputs
651	**Real Out09** Displays output word 09 of the controller communication format in floating point format. Paired with parameter 650 [Integer Out09], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Outputs
652	**Integer Out10** Displays output word 10 of the controller communication format in integer format. Paired with parameter 653 [Real Out10], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Outputs
653	**Real Out10** Displays output word 10 of the controller communication format in floating point format. Paired with parameter 652 [Integer Out10], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Outputs
654	**Integer Out11** Displays output word 11 of the controller communication format in integer format. Paired with parameter 655 [Real Out11], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Outputs
655	**Real Out11** Displays output word 11 of the controller communication format in floating point format. Paired with parameter 654 [Integer Out11], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Outputs
656	**Integer Out12** Displays output word 12 of the controller communication format in integer format. Paired with parameter 657 [Real Out12], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Outputs
657	**Real Out12** Displays output word 12 of the controller communication format in floating point format. Paired with parameter 656 [Integer Out12], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Outputs

No.	Name Description	Values	
658	**Integer Out13** Displays output word 13 of the controller communication format in integer format. Paired with parameter 659 [Real Out13], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Outputs
659	**Real Out13** Displays output word 13 of the controller communication format in floating point format. Paired with parameter 658 [Integer Out13], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Outputs
660	**Integer Out14** Displays output word 14 of the controller communication format in integer format. Paired with parameter 661 [Real Out14], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Outputs
661	**Real Out14** Displays output word 14 of the controller communication format in floating point format. Paired with parameter 660 [Integer Out14], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Outputs
662	**Integer Out15** Displays output word 15 of the controller communication format in integer format. Paired with parameter 663 [Real Out15], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Communication Logix Outputs
663	**Real Out15** Displays output word 15 of the controller communication format in floating point format. Paired with parameter 662 [Integer Out15], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point Communication Logix Outputs
664	**Lgx Comm Format** Indicates the Controller to Drive Module communication format. • A value of 16 indicates Velocity Control • A value of 17 indicates Position Control • A value of 18 indicates User-Defined • A value of 32 indicates Custom User-Defined	Default: Min: Max: Type: File: Group:	0 0 4294967296 Non-Linkable, Read Only, 32-bit Integer Communication Commands

No.	Name Description	Values		
740	**Position Control** Set bits to enable various postion control functions. • bit 1 - Enables position regulator output at parameter 318 [Posit Spd Output] • bit 2 - Enables integrator operation. Resets integrator if cleared. • bit 3 - Holds integrator in present state when set. • bit 4 - When set reverses polarity of offset parameters. • bit 5 - When set, permits changing the value of position offsets without changing actual position. When cleared, position offset is relative to the re-referenced value or the latched value upon enable if re-reference was not performed. • bit 6 - When set disabling the position regulator causes all accumulated values to be set to the value in parameter 762 [Mtr Posit Fdbk]. When cleared disabling the position regulator causes all accumulated values to be set to the selected position reference value. • bit 10 - When set parameter 758 [Pt-Pt Posit Ref] may be changed without changing actual position. • bit 13 - Reverses direction of interpolated position and speed. • bit 16 - When set position Watch 1 is enabled. When cleared parameter 741 [Position Status] bit 8 is cleared. • bit 17 - When set Position Watch 1 output is set when parameter 763 [Act Motor Posit] is greater than parameter 780 [PositDtct1 Stpt]. When cleared Position Watch 1 output is set when parameter 763 [Act Motor Posit] is less than parameter 763 [Act Motor Posit] [PositDtct1 Stpt]. • bit 18 - When set position Watch 2 is enabled. When cleared parameter 741 [Position Status] bit 9 is cleared. • bit 19 - When set Position Watch 2 output is set when parameter 763 [Act Motor Posit] is greater than parameter 781 [Posit Dtct2 Stpt]. When cleared Position Watch 2 output is set when parameter 763 [Act Motor Posit] is less than parameter 781 [Posit Dtct2 Stpt].	Default:	0000 0000 0000 1010 0000 0000 0000 0000	
		Options:	Bit 0	Reserved
			Bit 1	Speed Out En
			Bit 2	Integ En
			Bit 3	Integ Hold
			Bit 4	X Offset Pol
			Bit 5	X Offset Ref
			Bit 6	ActPosit Rst
			Bit 7	Reserved
			Bit 8	Reserved
			Bit 9	Reserved
			Bit 10	Pt-Pt ReRef
			Bit 11	Reserved
			Bit 12	Reserve
			Bit 13	Interp Rev
			Bit 14	Reserved
			Bit 15	Reserved
			Bit 16	X Watch1 En
			Bit 17	X Watch1 Dir
			Bit 18	X Watch2 En
			Bit 19	X Watch2 Dir
			Bit 20	Reserved
			Bit 21	Reserved
			Bit 22	Reserved
			Bit 23	Reserved
			Bit 24	Reserved
			Bit 25	Reserved
			Bit 26	Reserved
			Bit 27	Reserved
			Bit 28	Reserved
			Bit 29	Reserved
			Bit 30	Reserved
			Bit 31	Reserved
		File: Group:	Position Control Position Config	

No.	Name Description	Values		
741	**Position Status** Indicates status of position control algorithms. • bit 0 - Position integrator in lower limit. • bit 1 - Position integrator in high limit. • bit 2 - Position regulator output in low limit. • bit 3 - Position regulator output on high limit. • bit 8 - Indicates Position Watch 1 position has been reached. • bit 9 - Indicates Position Watch 2 position has been reached. • bit 10 - Indicates parameter 769 [Position Error] is within the position deadband specified by parmameter 782 [In Posit BW]	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15 Bit 16 Bit 17 Bit 18 Bit 19 Bit 20 Bit 21 Bit 22 Bit 23 Bit 24 Bit 25 Bit 26 Bit 27 Bit 28 Bit 29 Bit 30 Bit 31	X IGain LLX X IGain HLim X Spd LLim X Spd HLim Reserved Reserved Reserved Reserved Posit Watch1 Posit Watch2 In Position Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved
		File: Group:	Position Control Position Config	
742	**Posit Ref Sel** Enter a value to select the position mode and corresponding reference.	Default:	Val 1	AuxPosit Ref
		Options:	Val 0 Val 1 Val 2	Interpolate AuxPosit Ref Pt to Pt
		File: Group:	Position Control Position Config	
743	**Aux Posit Ref** Supplies position reference to the position regulator when selected by parameter 742 [Posit Ref Sel]. This input is designed to be linked to a position reference that has been profiled or well behaved (unlike point to point).	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer Position Control Interp/Direct	

No.	Name Description	Values	
744	**PositRef EGR Out** Accumuated output of the position reference Electronic Gear Ratio. When the position regulator is not enabled, this parameter is initialized to parameter 762 [Mtr Posit Fdbk] or to the selected position reference as determined by parameter 740 [Position Control] bit 6.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Position Control, Position Control Interp/Direct, Point to Point
745	**PositRef EGR Mul** An integer value in the numerator of the Electronic Gear Ratio function that is precision multiplied by the selected position reference. A negative value will effect a change in polarity	Default: Min: Max: Type: File: Group:	1 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer Position Control, Position Control Interp/Direct, Point to Point
746	**PositRef EGR Div** An integer value in the denominator of the Electronic Gear Ratio function that divides into the product of the numerator and the selected position reference. Remainders are accumulated and not lost.	Default: Min: Max: Type: File: Group:	1 1 2147483648 Non-Linkable, Read-Write, 32-bit Integer Position Control, Position Control Interp/Direct, Point to Point
747	**Position Cmmd** Final accumulated command to the position regulator. When the position regulator is not enabled, this parameter is initialized to parameter 762 [Mtr Posit Fdbk] or to the selected position reference as determined by parameter 740 [Position Control] bit 6. Thereafter, its value will reflect the result of reference and offset changes.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Position Control, Position Control Interp/Direct, Point to Point
748	**CoarsePosit Trgt** A 32 bit integer sink parameter that receives position updates at a slow but periodic rate. The coarse position target is applied to an interpolator that presents a smooth position reference and speed at its output. Coarse position input is typically linked to a motion planner that will provide target points at an integer multiple of 1 msec. The maximum coarse target time interval is 32 msec. The precise time interval need not be specified but it should be “rock solid” for best performance. An internal sync pulse must be received at the time of coarse position update	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer Position Control Interp/Direct
749	**Interp Position** Displays the smoothed position output of the interpolator function that supplies the position reference to the regulator when selected by parameter 742 [Posit Ref Sel].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Position Control Interp/Direct
750	**Interp Speed** Displays the smoothed speed output of the interpolator function. It may linked to speed reference as a feed forward to secure zero position error.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read Only, Floating Point Position Control Interp/Direct

No.	Name Description	Values	
751	**Interp Spd Scale** A gain multiplier for the interpolator, whose product is output parameter 750 [Interp Speed]. Normally it is set close to 1.0 to secure minimum following error.	Default: Min: Max: Type: File: Group:	1 0 200 Linkable, Read-Write, Floating Point Position Control Interp/Direct
753	**Posit Offset 1** Suplies a position reference offset, which is summed after the Electronic Gear Ratio and used to phase trim position reference. A step in the offset position will be internally rate limited and added to the selected reference position. The rate of correction is set by parameter 755 [Posit Offset Spd]. The initial value of this parameter is latched upon position enable without causing a change in reference. Subsequent changes to the value will be relative to the latched value. See parameter 740 [Position Control] bit 5 for re-referencing the offsets.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer Position Control, Position Control Interp/Direct, Point to Point
754	**Posit Offset 2** Suplies another position reference offset, which is summed directly with parameter 753 [Positi Offset 1]. Used to trim the phase of the selected position reference. Position offset will be internally rate limited to a velocity set by parameter 755 [Posit Offset Spd].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer Position Control, Position Control Interp/Direct, Point to Point
755	**Posit Offset Spd** Sets the speed of position offset. A position offset command will not exceed this speed. The actual speed of offset is limited to a maximum value of 1/(inertia * pos gain) so as not to cause a torque pulse greater than 1 per unit. The speed will change exponentially.	Units: Default: Min: Max: Type: File: Group:	RPM 175 -14000 14000 Linkable, Read-Write, Floating Point Position Control, Position Control Interp/Direct, Point to Point
756	**X Offst SpdFilt** Displays the output of a first order filter whose time response is shaped specifically to provide an output that represents the actual speed of offset correction. It may be used as feed forward into speed reference to secure minimal position error during changes to offset.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read Only, Floating Point Position Control, Position Control Interp/Direct, Point to Point
758	**Pt-Pt Posit Ref** The point to point mode 32 bit position reference is selected by parameter 742[Posit Ref Sel]. The initial value is latched upon position enable without causing movement. Subsequent changes to reference are relative to the latched position unless the position is re-referenced by parameter 740 [Position Control] bit 10. Position moves may be made within the limits of plus or minus 31 bits. Point to point reference may also be changed, even reversed, during a move.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer Position Control Point to Point

No.	Name Description	Values	
759	**Pt-Pt Accel Time** Acceleration time (sec) to base speed, active only in point to point mode. Acceleration to a relatively low speed may be exponential	Units: Default: Min: Max: Type: File: Group:	Sec 10 0.1 6553.5 Linkable, Read-Write, Floating Point Position Control Point to Point
760	**Pt-Pt Decel Time** Deceleration time (sec) from base speed to zero, active only in point to point mode. Some tailing can be expected at the end of a move as the drive comes into command position. It is left to the user to select a time that does not place the drive in current or torque limit. Deceleration from relatively low speed may be exponential.	Units: Default: Min: Max: Type: File: Group:	Sec 10 0.1 6553.5 Linkable, Read-Write, Floating Point Position Control Point to Point
761	**Pt-Pt Filt BW** Sets the bandwidth of a low pass filter which affects smoothness at the start of deceleration in the point to point mode. A high filter bandwidth will produce a more square deceleration torque, one with a higher level of jerk. Typical values range form 5 to 100 (rad/sec). A zero value will bypass the filter. Tail-out is influenced mainly by parameter 768 Posit Reg P Gain].	Units: Default: Min: Max: Type: File: Group:	R/S 25 0 500 Linkable, Read-Write, Floating Point Position Control Point to Point
762	**Mtr Posit Fdbk** Displays the accumulated pulse count of the primary feedback device as a 32 bit integer. The primary feedback device is selected by parameter 222 [Motor Fdbk Sel].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Monitor, Position Control, Position Control Metering, Interp/Direct, Point to Point
763	**Act Motor Posit** Displays the accumulated motor position as a 32 bit integer. It tracks parameter 762 [Mtr Posit Fdbk]. When the position regulator is not enabled, this parameter is initialized to parameter 762 [Mtr Posit Fdbk] or to the selected position reference as determined by parmeter 740 [Position Control] bit 6.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Position Control, Position Control, Position Control Interp/Direct, Point to Point, Posit Detection
764	**Posit Load Fdbk** Tracks the load position, as a 32 bit integer. When a gear box connects the load to the motor, parameter 766 [Posit FB EGR Mul] and parameter 767 [Posit FB EGR Div] must be set to account for the gear ratio. Set parameter 766 [Posit FB EGR Mul] equal to parameter 767 [Posit FB EGR Div] if the load is directly connected to the motor.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer Position Control Interp/Direct

No.	Name Description	Values	
765	**Posit Actl Load** Holds the accumulated output of the Load Gear Ratio as a 32 bit integer and forms the primary feedback for the position regulator integral channel. It is very important that the load gear ratio be precisely set such that the delta pulse count of one motor revolution equals the delta pulse count of this parameter. When the position regulator is not enabled, this parameter is initialized to parameter 762 [Mtr Posit Fdbk] or to the selected position reference as determined by parameter 740 [Position Control] bit 6.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Position Control Interp/Direct
766	**Posit FB EGR Mul** A 32 bit integer in the numerator of the load Electronic Gear Ratio function. It is multiplied by parameter 764 [Posit Load Fdbk] and divided by parameter 767 [Posit FB EGR Div] to reflect the load pulse count to the motor (effectively removing the gear box ratio). The accumulated position values parameter 763 [Act Motor Posit] and parameter 764 [Posit Actl Load] will be equal if the ratio is set properly. There may be some difference due to lost motion in the gear train, but there should not be an accumulated difference. It is often necessary to count gear teeth as gear box manufacturers often approximate exact ratios with decimal numbers. Enter a negative value in the numerator to account for reversed motor rotation.	Default: Min: Max: Type: File: Group:	1 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer Position Control Interp/Direct
767	**Posit FB EGR Div** This is a 32 bit integer that forms the denominator of the load Electronic Gear Ratio function.	Default: Min: Max: Type: File: Group:	1 1 2147483648 Non-Linkable, Read-Write, 32-bit Integer Position Control Interp/Direct
768	**PositReg P Gain** Sets position regulator gain as measured from position error to speed reference. The gain number is identically equal to position regulator bandwidth in rad/sec. For example: A gain of 10 means that a per unit position error of 0.1 sec. will effect a 1.0 pu speed change (1 per unit position error is the distance traveled in 1 sec. at base motor speed). The maximum value of this parameter is typically 1/3 of the speed bandwidth (rad/sec) but may be set considerably higher with careful tuning of the speed regulator output lead/lag filter.	Units: Default: Min: Max: Type: File: Group:	R/S 4 0 200 Linkable, Read-Write, Floating Point Position Control, Position Control Interp/Direct, Point to Point
769	**Position Error** Actual position error in motor pulse counts. When the position regulator is not enabled, this 32 bit integer register is initialized to zero. When the position regulator is enabled, this parameter contains the running value of position error, often referred to as “following error”.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Position Control, Position Control, Position Control Interp/Direct, Point to Point, Posit Detection

No.	Name Description	Values	
770	**PositReg Integ** Sets position regulator integral gain as measured from position error to velocity reference. It has gain units of (per unit velocity/sec) / (per unit position) and is unit compatible with [PositReg P Gain]. An integral gain of 25 means that a per unit position error of 0.1 sec will effect a 2.5 pu speed change per sec. A typical maximum value is π*[PositReg P Gain]2. Note: 1 per unit position is the distance traveled in 1 sec. at base motor speed.	Units: Default: Min: Max: Type: File: Group:	/Sec 1 0.01 500 Linkable, Read-Write, Floating Point Position Control Interp/Direct
771	**PositReg Droop** Position Droop limits the low frequency gain of the position regulators integral channel to a value of (1/droop). It provides a means to fine tune the stability for load mounted feedback devices where lost motion may cause a problem. Typically, position droop will have a value that is less than (1/position gain), perhaps even zero for tightly coupled loads. Position droop has a gain value of (per unit position) / (per unit speed). Note: 1 per unit position is the distance traveled in 1 sec. at base motor speed.	Default: Min: Max: Type: File: Group:	0 0 200 Linkable, Read-Write, Floating Point Position Control Interp/Direct
772	**XReg Integ LoLim** The negative limit of the position integrator.	Units: Default: Min: Max: Type: File: Group:	RPM -2187.5 -14000 0 Linkable, Read-Write, Floating Point Position Control Interp/Direct
773	**XReg Integ HiLim** The positive limit of the position integrator.	Units: Default: Min: Max: Type: File: Group:	RPM 2187.5 0 14000 Linkable, Read-Write, Floating Point Position Control Interp/Direct
774	**XReg Integ Out** The output of the position regulator integral channel after application of the limits. This output is set to zero if the integral gain is set to zero or the integrator is not enabled.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read Only, Floating Point Position Control Interp/Direct
775	**XReg Spd LoLim** The negative limit of total position regulator output. Point to point mode uses this parameter to set the reverse speed reference.	Units: Default: Min: Max: Type: File: Group:	RPM -1750 -14000 0 Linkable, Read-Write, Floating Point Position Control, Position Control Interp/Direct, Point to Point

No.	Name Description	Values		
776	**XReg Spd HiLim** The positive limit of total position regulator output. Point to point mode uses this parameter to set the forward speed reference. A value of 1.0 represents base speed of the motor.	Units: Default: Min: Max: Type: File: Group:	RPM 1750 0 14000 Linkable, Read-Write, Floating Point Position Control, Position Control Interp/Direct, Point to Point	
777	**Posit TP Select** Enter or write a value to select position regulator data displayed in parameter 778 [Posit TP Data Int] and parameter 779 [Posit TP DataReal].	Default:	Val 0	Zero
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14	Zero del Xo68 s Vout del X cmd del Act Load del Act Mtr Integ Error Xprop Out Reserved PreLim Xvout Limiter Out Ref EGR In OffsetVelLim PtoP VelLim Sec per Edge Edge per Sec
		File: Group:	Utility Test Points	
778	**PositTP Data Int** Displays the data selected by parameter [Posit TP Sel]. This display should only be used if the selected value is integer data.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Utility Test Points	
779	**PositTP DataReal** Displays the dat selected by parameter [Posit TP Sel] in RPM. This display should only be used if the selected value is floating point data.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -3.85×10^{12} 3.85×10^{12} Non-Linkable, Read Only, Floating Point Utility Test Points	
780	**PositDetct1 Stpt** Provides the setpoint for Position Watch 1. Position Watch 1 is enabled and configured with parameter 740 [Position Control] bits 16 & 17. Position Watch 1 compares this value with parameter 763 [Act Motor Posit] and sets bit 8 of parameter 741 [Position Status] when the appropriate condition is satisfied.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer Position Control Posit Detection	

No.	Name Description	Values	
781	**PositDetct2 Stpt** Provides the setpoint for Position Watch 2. Position Watch 2 is enabled and configured with parameter 740 [Position Control] bits 18 & 19. Position Watch 2 compares this value with parameter 763 [Act Motor Posit] and sets bit 9 of parameter 741 [Position Status] when the appropriate condition is satisfied.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer Position Control Posit Detection
782	**In Posit BW** Sets overall band width of In Position detector. The detector sets bit 10 of parameter 741 [Position Status], when parameter 769 [Position Error] is within limits for a sufficient time, specified by parameter 783 [In Posit Dwell] A modest hysteresis count is added to the position band width after the position error is within specified limits.	Default: Min: Max: Type: File: Group:	200 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer Position Control Posit Detection
783	**In Posit Dwell** Position error must be within the value specified by parameter 782 [In Posit BW] for this amount of time before the In Position detector sets bit 10 [In Position] of parameter 741 [Position Status]. A momentary out of position indication will reset the internal timer and clear the In Position status bit.	Units: Default: Min: Max: Type: File: Group:	Sec 0.004 0 10 Linkable, Read-Write, Floating Point Position Control Posit Detection

No.	Name Description	Values		
786	**Xsync Status** Bit 0 will go high for 0.5ms latching the Sync Generator inputs to the Sync Generator outputs. The period at which this bit is set is determined by parameter 787 [Xsync Gen Period]	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15 Bit 16 Bit 17 Bit 18 Bit 19 Bit 20 Bit 21 Bit 22 Bit 23 Bit 24 Bit 25 Bit 26 Bit 27 Bit 28 Bit 29 Bit 30 Bit 31	Sync Pulse Reserved
		File: Group:	Position Control Sync Generator	
787	**Xsync Gen Period** Sets the period for the Sync Pulse Generator. Bit 0 of parameter 786 [Xsync Status] will be set for 0.5 msec and will be cleared for 0.5msec x 2[Xsync Gen Period]] - 0.5 msec.	Default:	Val 1	2 msec
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6	1 msec 2 msec 3 msec 4 msec 8 msec 16 msec 32 msec
		File: Group:	Position Control Sync Generator	
788	**Xsync In 1** 32 bit integer input of the Sync Generator. Latched to parameter 789 [Xsync Out 1]. Link any 32 bit integer parameter to this input parameter.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer Position Control Sync Generator	

No.	Name Description	Values	
789	**Xsync Out 1** Sync Generator 32 bit output register. Latched to parameter 788 [Xsync In 1] every time bit 0 of parameter 786 [Xsync Status] (Sync Pulse) is set.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Position Control Sync Generator
790	**Xsync In 2** 32 bit integer input of the Sync Generator. Latched to parameter 791 [Xsync Out 2]. Link any 32 bit integer parameter to this input parameter.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer Position Control Sync Generator
791	**Xsync Out 2** Sync Generator 32 bit output register. Latched to parameter 790 [Xsync In 2] every time bit 0 of parameter 786 [Xsync Status] (Sync Pulse) is set.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Position Control Sync Generator
792	**Xsync Out 2 Dly** Displays data of parameter 791 [Xsync Out 2] from the last sync period.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Position Control Sync Generator
793	**Xsync In 3** 32 bit integer input of the Sync Generator. Latched to parameter 794 [Xsync Out 3]. Link any 32 bit integer parameter to this input parameter.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Linkable, Read-Write, Floating Point Position Control Sync Generator
794	**Xsync Out 3** Sync Generator 32 bit output register. Latched to parameter 793 [Xsync In 3] every time bit 0 of parameter 786 [Xsync Status] (Sync Pulse) is set.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Non-Linkable, Read Only, Floating Point Position Control Sync Generator
795	**Xsync Out 3 Dly** Displays data of parameter 794 [Xsync Out 3] from the last sync period.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Non-Linkable, Read Only, Floating Point Position Control Sync Generator

No.	Name Description	Values		
1000	**SL Node Cnfg** Set bits to configure the SynchLink node. Setting bit 0 configures the local node as the Time Master. Setting bit 2 configures the node to synchronize with the Time Master immediately (1-2S per node) on power-up or recovery. If you do not set bit 2, the node will stay in the fast mode, taking up to 36S per node to synchronize on power-up or recovery.	Default:	0000 0000 0000 0000 0000 0000 0000 0100	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15 Bit 16 Bit 17 Bit 18 Bit 19 Bit 20 Bit 21 Bit 22 Bit 23 Bit 24 Bit 25 Bit 26 Bit 27 Bit 28 Bit 29 Bit 30 Bit 31	Time Keeper Reserved Sync Now Reserved
		File: Group:	SynchLink SynchLink Config	
1001	**SynchLink Rev** Indicates the current revision of the local SynchLink Programmable Logic Firmware.	Default: Min: Max: Type: File: Group:	0.1 0.1 999.9 Non-Linkable, Read Only, 16-bit Integer Monitor Drive Data	
1002	**SL System Rev** Indicates the system revision of the SynchLink network. To be compatible on the network, all nodes must have the same major revision.	Default: Min: Max: Type: File: Group:	0.001 0.001 999.999 Non-Linkable, Read Only, 32-bit Integer Monitor Drive Data	

No.	Name Description	Values				
1010	**SL Rx Comm Frmt** Defines the node's communication format for receiving SynchLink data. This determines the number of axis data, direct data and buffered data words received. Configure the format by using the Peer Communication window in DriveExecutive programming software.		Value	Axis	Direct	Buffered
		Options:	Val 0 Val 7 Val 9 Val 17	0 0 0 0	0 2 4 4	0 18 8 18
		File: Group:	SynchLink SynchLink Config			
1011	**SL Rx DirectSel0** Determines the destination for the data received at word 0 of direct received data. Configure the selection by using the Peer Communication window.	Default:	Val 0	No Data		
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10	No Data SL Multiply Event P0 Event P1 Event D0 Event D1 Event D2 Event D3 Event Opt0 Event Opt1 Event Status		
		File: Group:	SynchLink SynchLink Config			
1012	**SL Rx DirectSel1** Determines the destination for the data received at word 1 of direct received data. Configure the selection by using the Peer Communication window.	Default:	Val 0	No Data		
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10	No Data SL Multiply Event P0 Event P1 Event D0 Event D1 Event D2 Event D3 Event Opt0 Event Opt1 Event Status		
		File: Group:	SynchLink SynchLink Config			
1013	**SL Rx DirectSel2** Determines the destination forved data. Configure the selection by using the Peer Communication window.	Default:	Val 0	No Data		
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10	No Data SL Multiply Event P0 Event P1 Event D0 Event D1 Event D2 Event D3 Event Opt0 Event Opt1 Event Status		
		File: Group:	SynchLink SynchLink Config			

No.	Name Description	Values				
1014	**SL Rx DirectSel3** Determines the destination for the data received at word 3 of direct received data. Configure the selection by using the Peer Communication window.	Default:	Val 0	No Data		
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10	No Data SL Multiply Event P0 Event P1 Event D0 Event D1 Event D2 Event D3 Event Opt0 Event Opt1 Event Status		
		File: Group:	SynchLink SynchLink Config			
1020	**SL Tx Comm Frmt** Defines the node's communication format for transmitting SynchLink data. This determines the number of axis data words, direct data words and buffered data words transmitted. Configure the format by using the Peer Communication window.		Value	Axis	Direct	Buffered
		Options:	Val 0 Val 7 Val 9 Val 17	0 0 0 0	0 2 4 4	0 18 8 18
		File: Group:	SynchLink SynchLink Config			
1021	**SL Tx DirectSel0** Determines the source type for the data transmitted by direct transmit word 0. The source type selections are: no data, event, feedback and drive parameter. If drive parameter is selected, a parameter of the appropriate data format (integer or real) must be linked to parameter 1141 [SL Dir Int Tx0] or parameter 1142 [SL Dir Real Tx0]. Configure the selection by using the Peer Communication window.	Default:	Val 0	No Data		
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14 Val 15 Val 16 Val 17 Val 18 Val 19 Val 20 Val 21 Val 22 Val 23 Val 24 Val 25 Val 26	No Data SL Multiply Event P0 Event P1 Event D0 Event D1 Event D2 Event D3 Event Opt0 Event Opt1 Event Status Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Dir Tx Data Dir Rx Data E0 Accum E1 Accum Opt0 Accum Opt1 Accum		
		File: Group:	SynchLink SynchLink Config			

No.	Name Description	Values		
1022	**SL Tx DirectSel1** Determines the source type for the data transmitted by direct transmit word 1. The source type selections are: no data, event, feedback and drive parameter. If drive parameter is selected, a parameter of the appropriate data format (integer or real) must be linked to parameter 1143 [SL Dir Int Tx1] or parameter 1144 [SL Dir Real Tx1]. Configure the selection by using the Peer Communication window.	Default:	Val 0	No Data
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14 Val 15 Val 16 Val 17 Val 18 Val 19 Val 20 Val 21 Val 22 Val 23 Val 24 Val 25 Val 26	No Data SL Multiply Event P0 Event P1 Event D0 Event D1 Event D2 Event D3 Event Opt0 Event Opt1 Event Status Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Dir Tx Data Dir Rx Data E0 Accum E1 Accum Opt0 Accum Opt1 Accum
		File: Group:	SynchLink SynchLink Config	

No.	Name Description	Values		
1023	**SL Tx DirectSel2** Determines the source type for the data transmitted by direct transmit word 2. The source type selections are: no data, event, feedback and drive parameter. If drive parameter is selected, a parameter of the appropriate data format (integer or real) must be linked to parameter 1145 [SL Dir Int Tx2] or parameter 1146 [SL Dir Real Tx2]. Configure the selection by using the Peer Communication window.	Default:	Val 0	No Data
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14 Val 15 Val 16 Val 17 Val 18 Val 19 Val 20 Val 21 Val 22 Val 23 Val 24 Val 25 Val 26	No Data SL Multiply Event P0 Event P1 Event D0 Event D1 Event D2 Event D3 Event Opt0 Event Opt1 Event Status Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Dir Tx Data Dir Rx Data E0 Accum E1 Accum Opt0 Accum Opt1 Accum
		File: Group:	SynchLink SynchLink Config	

No.	Name Description	Values		
1024	**SL Tx DirectSel3** Determines the source type for the data transmitted by direct transmit word 3. The source type selections are: no data, event, feedback and drive parameter. If drive parameter is selected, a parameter of the appropriate data format (integer or real) must be linked to parameter 1147 [SL Dir Int Tx3] or parameter 1148 [SL Dir Real Tx3]. Configure the selection by using the Peer Communication window.	Default:	Val 0	No Data
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14 Val 15 Val 16 Val 17 Val 18 Val 19 Val 20 Val 21 Val 22 Val 23 Val 24 Val 25 Val 26	No Data SL Multiply Event P0 Event P1 Event D0 Event D1 Event D2 Event D3 Event Opt0 Event Opt1 Event Status Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Dir Tx Data Dir Rx Data E0 Accum E1 Accum Opt0 Accum Opt1 Accum
		File: Group:	SynchLink SynchLink Config	
1030	**SL Mult A In** Displays the A Multiplier Input, as a floating point (real) value. This value is divided by the parameter 1032 [SL Mult Base]. The source of the A Multiplier is determined by the "Rx Direct Data Selector" (parameters 1011-1014). The possible sources are: zero, parameter 1054[Dir Int Rx0], parameter 1056 [Dir Int Rx1], parameter 1058 [Dir Int Rx2], or parameter 1060 [Dir Int Rx3]. The SynchLink Multiply function takes this input before it is converted to floating point.	Default: Min: Max: Type: File: Group:	0 0 16 Non-Linkable, Read Only, Floating Point SynchLink Multiplier	
1031	**SL Mult B In** The B Multiplier Input. This must be a floating point (real) value. The SynchLink Multiply function takes this input after it is converted to integer.	Default: Min: Max: Type: File: Group:	1 0.5 2 Linkable, Read-Write, Floating Point SynchLink Multiplier	
1032	**SL Mult Base** Specifies the base for SynchLink real to integer and integer to real conversion functions. Determines the resolution of the conversion results. You must use the same value at the transmitting node and receiving / multiplying nodes. Enter a value that will not produce an overflow - the product of this value and the inputs to the conversion and multiply functions must be less than 65,536.	Default: Min: Max: Type: File: Group:	10000 5000 50000 Non-Linkable, Read-Write, Floating Point SynchLink Multiplier	

No.	Name Description	Values	
1033	**SL Mult Out** Displays the output of the SynchLink Multiply function as a floating (real) value. The value is the result of the formula "Mult A In source (interger) x parameter 1031 [Mult B In] / parameter 1032 [Mult Base]" or "parameter 1030 [Mult A In] x parameter 1031 [Mult B In]". Note: the SynchLink Multiply function produces an output that is always positive.	Default: Min: Max: Type: File: Group:	0 0 16 Non-Linkable, Read Only, Floating Point SynchLink Multiplier
1034	**SL Mult State** Displays the status of the SynchLink Multiply function. Bit 0 [Local Ovflow] indicates a math overflow due to local multiply. Bit 1 [Rx Overflow] indicates a math overflow in received data. Bit 3 [Ftol Ovflow] indicates a math overflow in the real to integer conversion function.	Default:	0000 0000 0000 0000 0000 0000 0000 0000
		Options:	Bit 0 Local Ovflow Bit 1 Rx Overflow Bit 2 Reserved Bit 3 Ftol Ovflow Bit 4 Reserved Bit 5 Reserved Bit 6 Reserved Bit 7 Reserved Bit 8 Reserved Bit 9 Reserved Bit 10 Reserved Bit 11 Reserved Bit 12 Reserved Bit 13 Reserved Bit 14 Reserved Bit 15 Reserved Bit 16 Reserved Bit 17 Reserved Bit 18 Reserved Bit 19 Reserved Bit 20 Reserved Bit 21 Reserved Bit 22 Reserved Bit 23 Reserved Bit 24 Reserved Bit 25 Reserved Bit 26 Reserved Bit 27 Reserved Bit 28 Reserved Bit 29 Reserved Bit 30 Reserved Bit 31 Reserved
		File: Group:	SynchLink **Multiplier**
1035	**Real to Int In** Provides the floating point (real) input to the real to integer conversion function.	Default: Min: Max: Type: File: Group:	0 -16 16 Linkable, Read-Write, Floating Point SynchLink Multiplier

No.	Name Description	Values		
1036	**Real to Int Out** Displays the integer output of the real to integer conversion function. The value is the result of the formula "parameter 1035 [Real to Int In] x parameter 1032 [SL Mult Base]".	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read Only, 16-bit Integer SynchLink Multiplier	
1040	**SL Rcv Events** Displays the received event status from parameter 1041 [Rx P0 Regis] through parameter 1048 [Rx Opt1 Regis].	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15 Bit 16 Bit 17 Bit 18 Bit 19 Bit 20 Bit 21 Bit 22 Bit 23 Bit 24 Bit 25 Bit 26 Bit 27 Bit 28 Bit 29 Bit 30 Bit 31	E0 Regis E1 Regis D0 D1 D2 D3 Opt0 Regis Opt1 Regis Reserved
		File: Group:	SynchLink Multiplier	
1041	**SL Rx P0 Regis** Displays received port 0 registration data, if direct received data is configured to be port 0 registration data by the Rx Direct Data Selector (parameters 1011-1014). Configure this selection by using the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Event Data	
1042	**SL Rx P1 Regis** Displays received port 1 registration data, if direct received data is configured to be port 1 registration data by the Rx Direct Data Selector (parameters 1011-1014). Configure this selection by using the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Event Data	

No.	Name Description	Values	
1043	**SL Rx D0 Latch** Displays received event D0 latch data, if direct received data is configured to be event D0 latch data by the Rx Direct Data Selector (parameters 1011-1014). Configure this selection by using the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Event Data
1044	**SL Rx D1 Latch** Displays received event D1 latch data, if direct received data is configured to be event D1 latch data by the Rx Direct Data Selector (parameters 1011-1014). Configure this selection by using the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Event Data
1045	**SL Rx D2 Latch** Displays received event D2 latch data, if direct received data is configured to be event D2 latch data by the Rx Direct Data Selector (parameters 1011-1014). Configure this selection by using the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Event Data
1046	**SL Rx D3 Latch** Displays received event D3 latch data, if direct received data is configured to be event D3 latch data by the Rx Direct Data Selector (parameters 1011-1014). Configure this selection by using the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Event Data
1047	**SL Rx Opt0 Regis** Displays received registration data from feedback option 1 (high resolution encoder daughter card), if direct received data is configured to be feedback option 1 registration data by the Rx Direct Data Selector (parameters 1011-1014). Configure this selection by using the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Event Data
1048	**SL Rx Opt1 Regis** Displays received registration data from feedback option 0 (high resolution encoder daughter card), if direct received data is configured to be feedback option 0 registration data by the Rx Direct Data Selector (parameters 1011-1014). Configure this selection by using the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Event Data
1054	**SL Dir Int Rx0** Displays the integer value of the Direct Received Data for word 0. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1055 [SL Dir Real Rx0].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Event Data
1055	**SL Dir Real Rx0** Displays the floating point (real) value of the Direct Received Data for word 0. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1054 [SL Dir Int Rx0].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Direct Data

No.	Name Description	Values	
1056	**SL Dir Int Rx1** Displays the integer value of the Direct Received Data for word 1. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1057 [SL Dir Real Rx1].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Event Data
1057	**SL Dir Real Rx1** Displays the floating point (real) value of the Direct Received Data for word 1. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1056 [SL Dir Int Rx1].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Direct Data
1058	**SL Dir Int Rx2** Displays the integer value of the Direct Received Data for word 2. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1059 [SL Dir Real Rx2].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Event Data
1059	**SL Dir Real Rx2** Displays the floating point (real) value of the Direct Received Data for word 2. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1058 [SL Dir Int Rx2].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Direct Data
1060	**SL Dir Int Rx3** Displays the integer value of the Direct Received Data for word 3. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1061 [SL Dir Real Rx3].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Event Data
1061	**SL Dir Real Rx3** Displays the floating point (real) value of the Direct Received Data for word 3. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1060 [SL Dir Int Rx3].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Direct Data
1073	**SL Buf Int Rx00** Displays the integer value of the Buffered Received Data for word 0. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1074 [SL Buf Real Rx00].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1074	**SL Buf Real Rx00** Displays the floating point (real) value of the Buffered Received Data for word 0. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1073 [SL Buf Int Rx00].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In

No.	Name Description	Values	
1075	**SL Buf Int Rx01** Displays the integer value of the Buffered Received Data for word 1. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1076 [SL Buf Real Rx01].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1076	**SL Buf Real Rx01** Displays the floating point (real) value of the Buffered Received Data for word 1. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1075 [SL Buf Int Rx01].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In
1077	**SL Buf Int Rx02** Displays the integer value of the Buffered Received Data for word 2. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1078 [SL Buf Real Rx02].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1078	**SL Buf Real Rx02** Displays the floating point (real) value of the Buffered Received Data for word 2. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1079 [SL Buf Int Rx02].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In
1079	**SL Buf Int Rx03** Displays the integer value of the Buffered Received Data for word 3. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1080 [SL Buf Real Rx03].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1080	**SL Buf Real Rx03** Displays the floating point (real) value of the Buffered Received Data for word 3. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1079 [SL Buf Int Rx03].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In
1081	**SL Buf Int Rx04** Displays the integer value of the Buffered Received Data for word 4. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1082 [SL Buf Real Rx04].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1082	**SL Buf Real Rx04** Displays the floating point (real) value of the Buffered Received Data for word 4. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1081 [SL Buf Int Rx04].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In

No.	Name Description	Values	
1083	**SL Buf Int Rx05** Displays the integer value of the Buffered Received Data for word 5. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1084 [SL Buf Real Rx05].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1084	**SL Buf Real Rx05** Displays the floating point (real) value of the Buffered Received Data for word 5. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1083 [SL Buf Int Rx05].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In
1085	**SL Buf Int Rx06** Displays the integer value of the Buffered Received Data for word 6. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1086 [SL Buf Real Rx06].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1086	**SL Buf Real Rx06** Displays the floating point (real) value of the Buffered Received Data for word 6. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1085 [SL Buf Int Rx06].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In
1087	**SL Buf Int Rx07** Displays the integer value of the Buffered Received Data for word 7. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1088 [SL Buf Real Rx07].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1088	**SL Buf Real Rx07** Displays the floating point (real) value of the Buffered Received Data for word 7. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1087 [SL Buf Int Rx07].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In
1089	**SL Buf Int Rx08** Displays the integer value of the Buffered Received Data for word 8. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1090 [SL Buf Real Rx08].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1090	**SL Buf Real Rx08** Displays the floating point (real) value of the Buffered Received Data for word 8. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1089 [SL Buf Int Rx08].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In

No.	Name Description	Values	
1091	**SL Buf Int Rx09** Displays the integer value of the Buffered Received Data for word 9. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1092 [SL Buf Real Rx09].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1092	**SL Buf Real Rx09** Displays the floating point (real) value of the Buffered Received Data for word 9. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1091 [SL Buf Int Rx09].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In
1093	**SL Buf Int Rx10** Displays the integer value of the Buffered Received Data for word 10. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1094 [SL Buf Real Rx10].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1094	**SL Buf Real Rx10** Displays the floating point (real) value of the Buffered Received Data for word 10. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1093 [SL Buf Int Rx10].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In
1095	**SL Buf Int Rx11** Displays the integer value of the Buffered Received Data for word 11. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1096 [SL Buf Real Rx11].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1096	**SL Buf Real Rx11** Displays the floating point (real) value of the Buffered Received Data for word 11. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1095 [SL Buf Int Rx11].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In
1097	**SL Buf Int Rx12** Displays the integer value of the Buffered Received Data for word 12. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1098 [SL Buf Real R12].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1098	**SL Buf Real Rx12** Displays the floating point (real) value of the Buffered Received Data for word 12. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1097 [SL Buf Int R12].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In

No.	Name Description	Values	
1099	**SL Buf Int Rx13** Displays the integer value of the Buffered Received Data for word 13. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1100 [SL Buf Real R13].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1100	**SL Buf Real Rx13** Displays the floating point (real) value of the Buffered Received Data for word 13. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1099 [SL Buf Int R13].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In
1101	**SL Buf Int Rx14** Displays the integer value of the Buffered Received Data for word 14. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1102 [SL Buf Real R14].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1102	**SL Buf Real Rx14** Displays the floating point (real) value of the Buffered Received Data for word 14. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1101 [SL Buf Int R14].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In
1103	**SL Buf Int Rx15** Displays the integer value of the Buffered Received Data for word 15. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1104 [SL Buf Real R15].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1104	**SL Buf Real Rx15** Displays the floating point (real) value of the Buffered Received Data for word 15. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1103 [SL Buf Int R15].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In
1105	**SL Buf Int Rx16** Displays the integer value of the Buffered Received Data for word 16. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1106 [SL Buf Real Rx16].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1106	**SL Buf Real Rx16** Displays the floating point (real) value of the Buffered Received Data for word 16. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1105 [SL Buf Int Rx16].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In

No.	Name Description	Values	
1107	**SL Buf Int Rx17** Displays the integer value of the Buffered Received Data for word 17. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1108 [SL Buf Real Rx17].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1108	**SL Buf Real Rx17** Displays the floating point (real) value of the Buffered Received Data for word 17. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1107 [SL Buf Int Rx17].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In
1109	**SL Buf Int Rx18** Displays the integer value of the Buffered Received Data for word 18. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1110 [SL Buf Real Rx18].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1110	**SL Buf Real Rx18** Displays the floating point (real) value of the Buffered Received Data for word 18. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1109 [SL Buf Int Rx18].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In
1111	**SL Buf Int Rx19** Displays the integer value of the Buffered Received Data for word 19. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1112 [SL Buf Real Rx19].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1112	**SL Buf Real Rx19** Displays the floating point (real) value of the Buffered Received Data for word 19. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1111 [SL Buf Int Rx19].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In
1113	**SL Buf Int Rx20** Displays the integer value of the Buffered Received Data for word 20. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1114 [SL Buf Real Rx20].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1114	**SL Buf Real Rx20** Displays the floating point (real) value of the Buffered Received Data for word 20. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1113 [SL Buf Int Rx20].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In

No.	Name Description	Values	
1115	**SL Buf Int Rx21** Displays the integer value of the Buffered Received Data for word 21. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1116 [SL Buf Real Rx21].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1116	**SL Buf Real Rx21** Displays the floating point (real) value of the Buffered Received Data for word 21. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1115 [SL Buf Int Rx21].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In
1117	**SL Buf Int Rx22v** Displays the integer value of the Buffered Received Data for word 22. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1118 [SL Buf Real Rx22].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1118	**SL Buf Real Rx22** Displays the floating point (real) value of the Buffered Received Data for word 22. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1117 [SL Buf Int Rx22].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In
1119	**SL Buf Int Rx23** Displays the integer value of the Buffered Received Data for word 23. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1120 [SL Buf Real Rx23].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1120	**SL Buf Real Rx23** Displays the floating point (real) value of the Buffered Received Data for word 23. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1119 [SL Buf Int Rx23].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In
1121	**SL Buf Int Rx24** Displays the integer value of the Buffered Received Data for word 24. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1122 [SL Buf Real Rx24].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1122	**SL Buf Real Rx24** Displays the floating point (real) value of the Buffered Received Data for word 24. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1121 [SL Buf Int Rx24].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In

No.	Name Description	Values	
1123	**SL Buf Int Rx25** Displays the integer value of the Buffered Received Data for word 25. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1124 [SL Buf Real Rx25].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1124	**SL Buf Real Rx25** Displays the floating point (real) value of the Buffered Received Data for word 25. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1123 [SL Buf Int Rx25].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In
1125	**SL Buf Int Rx26** Displays the integer value of the Buffered Received Data for word 26. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1126 [SL Buf Real Rx26].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1126	**SL Buf Real Rx26** Displays the floating point (real) value of the Buffered Received Data for word 26. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1125 [SL Buf Int Rx26].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In
1127	**SL Buf Int Rx27** Displays the integer value of the Buffered Received Data for word 27. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1128 [SL Buf Real Rx27].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1128	**SL Buf Real Rx27** Displays the floating point (real) value of the Buffered Received Data for word 27. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1127 [SL Buf Int Rx27].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In
1129	**SL Buf Int Rx28** Displays the integer value of the Buffered Received Data for word 28. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1130 [SL Buf Real Rx28].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1130	**SL Buf Real Rx28** Displays the floating point (real) value of the Buffered Received Data for word 28. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1129 [SL Buf Int Rx28].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In

No.	Name Description	Values	
1131	**SL Buf Int Rx29** Displays the integer value of the Buffered Received Data for word 29. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1132 [SL Buf Real Rx29].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer SynchLink Buffered Data In
1132	**SL Buf Real Rx29** Displays the floating point (real) value of the Buffered Received Data for word 29. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1131 [SL Buf Int Rx29].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read Only, Floating Point SynchLink Buffered Data In
1140	**Tx Dir Data Type** Indicates the data type of each Direct Transmit word. If the word's bit is set the data type is floating point (real). If the bit is not set the data type is integer. Use the Peer Communictation window to configure this selection.	Default:	0000 0000 0000 0000 0000 0000 0000 0000
		Options:	Bit 0 Real Tx0 Bit 1 Real Tx1 Bit 2 Real Tx2 Bit 3 Real Tx3 Bit 4 Reserved Bit 5 Reserved Bit 6 Reserved Bit 7 Reserved Bit 8 Reserved Bit 9 Reserved Bit 10 Reserved Bit 11 Reserved Bit 12 Reserved Bit 13 Reserved Bit 14 Reserved Bit 15 Reserved Bit 16 Reserved Bit 17 Reserved Bit 18 Reserved Bit 19 Reserved Bit 20 Reserved Bit 21 Reserved Bit 22 Reserved Bit 23 Reserved Bit 24 Reserved Bit 25 Reserved Bit 26 Reserved Bit 27 Reserved Bit 28 Reserved Bit 29 Reserved Bit 30 Reserved Bit 31 Reserved
		File: Group:	SynchLink Direct Data
1141	**SL Dir Int Tx0** Provides integer data for Direct Transmit word 0, if the data type for word 0 (indicated in parameter 1140 [Tx Dir Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Direct Data

No.	Name Description	Values	
1142	**SL Dir Real Tx0** Provides floating point (real) data for Direct Transmit word 0, if the data type for word 0 (indicated in parameter 1140 [Tx Dir Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Direct Data
1143	**SL Dir Int Tx1** Provides integer data for Direct Transmit word 1, if the data type for word 1 (indicated in parameter 1140 [Tx Dir Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Direct Data
1144	**SL Dir Real Tx1** Provides floating point (real) data for Direct Transmit word 1, if the data type for word 1 (indicated in parameter 1140 [Tx Dir Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Direct Data
1145	**SL Dir Int Tx2** Provides integer data for Direct Transmit word 2, if the data type for word 2 (indicated in parameter 1140 [Tx Dir Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Direct Data
1146	**SL Dir Real Tx2** Provides floating point (real) data for Direct Transmit word 2, if the data type for word 2 (indicated in parameter 1140 [Tx Dir Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Direct Data
1147	**SL Dir Int Tx3** Provides integer data for Direct Transmit word 3, if the data type for word 3 (indicated in parameter 1140 [Tx Dir Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Direct Data
1148	**SL Dir Real Tx3** Provides floating point (real) data for Direct Transmit word 3, if the data type for word 3 (indicated in parameter 1140 [Tx Dir Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Direct Data

No.	Name Description	Values		
1160	**Tx Buf Data Type** Indicates the data type of each Buffered Transmit word. If the word's bit is set the data type is floating point (real). If the bit is not set the data type is integer. Use the Peer Communictation window to configure this selection.	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15 Bit 16 Bit 17 Bit 18 Bit 19 Bit 20 Bit 21 Bit 22 Bit 23 Bit 24 Bit 25 Bit 26 Bit 27 Bit 28 Bit 29	Real Tx0 Real Tx1 Real Tx2 Real Tx3 Real Tx4 Real Tx5 Real Tx6 Real Tx7 Real Tx8 Real Tx9 Real Tx10 Real Tx11 Real Tx12 Real Tx13 Real Tx14 Real Tx15 Real Tx16 Real Tx17 Real Tx18 Real Tx19 Real Tx20 Real Tx21 Real Tx22 Real Tx23 Real Tx24 Real Tx25 Real Tx26 Real Tx27 Real Tx28 Real Tx29
		File: Group:	SynchLink Buffered DataOut	
1161	**SL Buf Int Tx00** Provides integer data for Direct Transmit word 0, if the data type for word 0 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut	
1162	**SL Buf Real Tx00** Provides floating point (real) data for Direct Transmit word 0, if the data type for word 0 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut	
1163	**SL Buf Int Tx01** Provides integer data for Direct Transmit word 1, if the data type for word 1 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut	

No.	Name Description	Values	
1164	**SL Buf Real Tx01** Provides floating point (real) data for Direct Transmit word 1, if the data type for word 1 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1165	**SL Buf Int Tx02** Provides integer data for Direct Transmit word 2, if the data type for word 2 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut
1166	**SL Buf Real Tx02** Provides floating point (real) data for Direct Transmit word 2, if the data type for word 2 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1167	**SL Buf Int Tx03** Provides integer data for Direct Transmit word 3, if the data type for word 3 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut
1168	**SL Buf Real Tx03** Provides floating point (real) data for Direct Transmit word 3, if the data type for word 3 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1169	**SL Buf Int Tx04** Provides integer data for Direct Transmit word 4, if the data type for word 4 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut
1170	**SL Buf Real Tx04** Provides floating point (real) data for Direct Transmit word 4, if the data type for word 4 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1171	**SL Buf Int Tx05** Provides integer data for Direct Transmit word 5, if the data type for word 5 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut

No.	Name Description	Values	
1172	**SL Buf Real Tx05** Provides floating point (real) data for Direct Transmit word 5, if the data type for word 5 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1173	**SL Buf Int Tx06** Provides integer data for Direct Transmit word 6, if the data type for word 6 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut
1174	**SL Buf Real Tx06** Provides floating point (real) data for Direct Transmit word 6, if the data type for word 6 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1175	**SL Buf Int Tx07** Provides integer data for Direct Transmit word 7, if the data type for word 7 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut
1176	**SL Buf Real Tx07** Provides floating point (real) data for Direct Transmit word 7, if the data type for word 7 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1177	**SL Buf Int Tx08** Provides integer data for Direct Transmit word 8, if the data type for word 8 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut
1178	**SL Buf Real Tx08** Provides floating point (real) data for Direct Transmit word 8, if the data type for word 8 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1179	**SL Buf Int Tx09** Provides integer data for Direct Transmit word 9, if the data type for word 9 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut

No.	Name Description	Values	
1180	**SL Buf Real Tx09** Provides floating point (real) data for Direct Transmit word 9, if the data type for word 9 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1181	**SL Buf Int Tx10** Provides integer data for Direct Transmit word 10, if the data type for word 10 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut
1182	**SL Buf Real Tx10** Provides floating point (real) data for Direct Transmit word 10, if the data type for word 10 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1183	**SL Buf Int Tx11** Provides integer data for Direct Transmit word 11, if the data type for word 11 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut
1184	**SL Buf Real Tx11** Provides floating point (real) data for Direct Transmit word 11, if the data type for word 11 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1185	**SL Buf Int Tx12** Provides integer data for Direct Transmit word 12, if the data type for word 12 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut
1186	**SL Buf Real Tx12** Provides floating point (real) data for Direct Transmit word 12, if the data type for word 12 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1187	**SL Buf Int Tx13** Provides integer data for Direct Transmit word 13, if the data type for word 13 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut

No.	Name Description	Values	
1188	**SL Buf Real Tx13** Provides floating point (real) data for Direct Transmit word 13, if the data type for word 13 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1189	**SL Buf Int Tx14** Provides integer data for Direct Transmit word 14, if the data type for word 14 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut
1190	**SL Buf Real Tx14** Provides floating point (real) data for Direct Transmit word 14, if the data type for word 14 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1191	**SL Buf Int Tx15** Provides integer data for Direct Transmit word 15, if the data type for word 15 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut
1192	**SL Buf Real Tx15** Provides floating point (real) data for Direct Transmit word 15, if the data type for word 15 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1193	**SL Buf Int Tx16** Provides integer data for Direct Transmit word 16, if the data type for word 16 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut
1194	**SL Buf Real Tx16** Provides floating point (real) data for Direct Transmit word 16, if the data type for word 16 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1195	**SL Buf Int Tx17** Provides integer data for Direct Transmit word 17, if the data type for word 17 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut

No.	Name Description	Values	
1196	**SL Buf Real Tx17** Provides floating point (real) data for Direct Transmit word 17, if the data type for word 17 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1197	**SL Buf Int Tx18** Provides integer data for Direct Transmit word 18, if the data type for word 18 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut
1198	**SL Buf Real Tx18** Provides floating point (real) data for Direct Transmit word 18, if the data type for word 18 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1199	**SL Buf Int Tx19** Provides integer data for Direct Transmit word 19, if the data type for word 19 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut
1200	**SL Buf Real Tx19** Provides floating point (real) data for Direct Transmit word 19, if the data type for word 19 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1201	**SL Buf Int Tx20** Provides integer data for Direct Transmit word 20, if the data type for word 20 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut
1202	**SL Buf Real Tx20** Provides floating point (real) data for Direct Transmit word 20, if the data type for word 20 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1203	**SL Buf Int Tx21** Provides integer data for Direct Transmit word 21, if the data type for word 21 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut

No.	Name Description	Values	
1204	**SL Buf Real Tx21** Provides floating point (real) data for Direct Transmit word 21, if the data type for word 21 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1205	**SL Buf Int Tx22** Provides integer data for Direct Transmit word 22, if the data type for word 22 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut
1206	**SL Buf Real Tx22** Provides floating point (real) data for Direct Transmit word 22, if the data type for word 22 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1207	**SL Buf Int Tx23** Provides integer data for Direct Transmit word 23, if the data type for word 23 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut
1208	**SL Buf Real Tx23** Provides floating point (real) data for Direct Transmit word 23, if the data type for word 23 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1209	**SL Buf Int Tx24** Provides integer data for Direct Transmit word 24, if the data type for word 24 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut
1210	**SL Buf Real Tx24** Provides floating point (real) data for Direct Transmit word 24, if the data type for word 24 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1211	**SL Buf Int Tx25** Provides integer data for Direct Transmit word 25, if the data type for word 25 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut

No.	Name Description	Values	
1212	**SL Buf Real Tx25** Provides floating point (real) data for Direct Transmit word 25, if the data type for word 25 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1213	**SL Buf Int Tx26** Provides integer data for Direct Transmit word 26, if the data type for word 26 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut
1214	**SL Buf Real Tx26** Provides floating point (real) data for Direct Transmit word 26, if the data type for word 26 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1215	**SL Buf Int Tx27** Provides integer data for Direct Transmit word 27, if the data type for word 27 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut
1216	**SL Buf Real Tx27** Provides floating point (real) data for Direct Transmit word 27, if the data type for word 27 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1217	**SL Buf Int Tx28** Provides integer data for Direct Transmit word 28, if the data type for word 28 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut
1218	**SL Buf Real Tx28** Provides floating point (real) data for Direct Transmit word 28, if the data type for word 28 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1219	**SL Buf Int Tx29** Provides integer data for Direct Transmit word 29, if the data type for word 29 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-bit Integer SynchLink Buffered DataOut

No.	Name Description	Values		
1220	**SL Buf Real Tx29** Provides floating point (real) data for Direct Transmit word 29, if the data type for word 29 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut	
1226	**SL Comm TP Sel** Enter or write a value to select SynchLink data displayed by parameter 1227 [SL Comm TP Data].	Default:	Val 0	Zero
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14 Val 15 Val 16 Val 17 Val 18 Val 19 Val 20 Val 21 Val 22 Val 23 Val 24 Val 25	Zero SI MulA Src SI Mult A In SI Mult B In SI Mult Out Rx Axis Size Rx Dir Size Rx Buf Size Rx Pkg Size Rx Seq Cnt Rx Index 0 Rx Index 1 Rx Index 2 BufSeqErrTim Rx Sys Rev Tx Axis Size Tx Dir Size Tx Buf Size Tx Pkg Size Tx Seq Cnt Tx Index 0 Tx Index 1 Tx Index 2 Rx Vendor ID Rx Module Typ Rx Serial #
		File: Group:	Utility Diagnostics	
1227	**SL Comm TP Data** Displays data selected by parameter 1226 [SL Comm TP Sel].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read Only, 32-bit Integer Utility Diagnostics	

No.	Name Description	Values		
1228	**SL Error History** Displays SynchLink faults which have occurred since the last fault clear or power cycle. • Bit 0 [Sync Loss] indicates SynchLink communication has failed, after it had been established • Bit 1 [Rx Loss] indicates the receive port is not receiving data, and the receive port configuration is set toeceive data • Bit 2 [Many BOF Err] indicates the number of Beginning Of Frame (BOF) errors exceeds limit set by parameter 1235 [SL BOF Err Limit] • Bit 3 [Many CRC Err] indicatesindicates the number of Cyclic Redundancy Check (CRC) errors exceeds limit set by parameter 1234 [SL CRC Err Limit] • Bit 4 [Pckg Msg Err] indicates the received package sequence number has not matched for 1.0S • Bit 5 [CommForm Err] indicates the format of received data does not match the configuration of the receive port • Bit 6 [Sys Rev Err] indicates the system revision in the received data does not match the value of parameter 1001 [SynchLink Rev] • Bit 7 [Mult TKeeper] indicates more than one node on the SynchLink system is configured as a time keeper	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options:	Bit 0	Sync Loss
			Bit 1	Rx Loss
			Bit 2	Many BOF Err
			Bit 3	Many CRC Err
			Bit 4	Pckg Msg Err
			Bit 5	CommForm Err
			Bit 6	Sys Rev Err
			Bit 7	Mult TKeeper
			Bit 8	Reserved
			Bit 9	Reserved
			Bit 10	Reserved
			Bit 11	Reserved
			Bit 12	Reserved
			Bit 13	Reserved
			Bit 14	Reserved
			Bit 15	Reserved
			Bit 16	Reserved
			Bit 17	Reserved
			Bit 18	Reserved
			Bit 19	Reserved
			Bit 20	Reserved
			Bit 21	Reserved
			Bit 22	Reserved
			Bit 23	Reserved
			Bit 24	Reserved
			Bit 25	Reserved
			Bit 26	Reserved
			Bit 27	Reserved
			Bit 28	Reserved
			Bit 29	Reserved
			Bit 30	Reserved
			Bit 31	Reserved
		File: Group:	Utility Diagnostics	

No.	Name Description	Values		
1229	**SL Error Status** Indicates presence of SynchLink faults. This data is visable on the SynchLink diagnostics tab of the Peer Communication window. • Bit 0 [Sync Loss] indicates SynchLink communication has failed, after it had been established • Bit 1 [Rx Loss] indicates the receive port is not receiving data, and the receive port configuration is set toeceive data • Bit 2 [Many BOF Err] indicates the number of Beginning Of Frame (BOF) errors exceeds limit set by parameter 1235 [SL BOF Err Limit] • Bit 3 [Many CRC Err] indicatesindicates the number of Cyclic Redundancy Check (CRC) errors exceeds limit set by parameter 1234 [SL CRC Err Limit] • Bit 4 [Pckg Msg Err] indicates the received package sequence number has not matched for 1.0S • Bit 5 [CommForm Err] indicates the format of received data does not match the configuration of the receive port • Bit 6 [Sys Rev Err] indicates the system revision in the received data does not match the value of parameter 1001 [SynchLink Rev] • Bit 7 [Mult TKeeper] indicates more than one node on the SynchLink system is configured as a time keeper	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options:	Bit 0	Sync Loss
			Bit 1	Rx Loss
			Bit 2	Many BOF Err
			Bit 3	Many CRC Err
			Bit 4	Pckg Msg Err
			Bit 5	CommForm Err
			Bit 6	Sys Rev Err
			Bit 7	Mult TKeeper
			Bit 8	Reserved
			Bit 9	Reserved
			Bit 10	Reserved
			Bit 11	Reserved
			Bit 12	Reserved
			Bit 13	Reserved
			Bit 14	Reserved
			Bit 15	Reserved
			Bit 16	Reserved
			Bit 17	Reserved
			Bit 18	Reserved
			Bit 19	Reserved
			Bit 20	Reserved
			Bit 21	Reserved
			Bit 22	Reserved
			Bit 23	Reserved
			Bit 24	Reserved
			Bit 25	Reserved
			Bit 26	Reserved
			Bit 27	Reserved
			Bit 28	Reserved
			Bit 29	Reserved
			Bit 30	Reserved
			Bit 31	Reserved
		File: Group:	Utility Diagnostics	
1230	**SL CRC Err Accum** Displays the total accumulated number of CRC (Cycling Ring Checksum) errors. Clearing a fault resets this accumulator. This data is visable on the SynchLink diagnostics tab of the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 0 4294967296 Non-Linkable, Read Only, 32-bit Integer Utility Diagnostics	
1231	**SL CRC Error** Displays the number of CRC (Cycling Ring Checksum) errors that occurred during the last test (last 8 mS). This data is visable on the SynchLink diagnostics tab of the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 0 4294967296 Non-Linkable, Read Only, 32-bit Integer Utility Diagnostics	
1232	**SL BOF Err Accum** Displays the total accumulated number of BOF (Beginning Of Frame) errors. Clearing a fault resets this accumulator. This data is visable on the SynchLink diagnostics tab of the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 0 4294967296 Non-Linkable, Read Only, 32-bit Integer DPS/PMI DPS/PMI	

No.	Name Description	Values	
1233	**SL BOF Error** Displays the number of BOF (Beginning Of Frame) errors that occurred during the last test (last 8 mS). This data is visable on the SynchLink diagnostics tab of the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 0 4294967296 Non-Linkable, Read Only, 32-bit Integer DPS/PMI Comm Status
1234	**SL CRC Err Limit** The number of CRC (Cycling Ring Checksum) errors per test (per 8 mS) allowed before the drive declares a SynchLink CRC Error exception event. Set this limit on the SynchLink diagnostics tab of the Peer Communication window.	Default: Min: Max: Type: File: Group:	2 0 256 Non-Linkable, Read-Write, 32-bit Integer DPS/PMI DPS/PMI
1235	**SL BOF Err Limit** The number of BOF (Beginning Of Frame) errors per test (per 8 mS) allowed before the drive declares a SynchLink BOF Error exception event. Set this limit on the SynchLink diagnostics tab of the Peer Communication window.	Default: Min: Max: Type: File: Group:	2 0 256 Non-Linkable, Read-Write, 32-bit Integer DPS/PMI Comm Status
2000	**DM Com Prt Stat** Indicates faults or warnings related to the Drive Module's Drive Communication ports. • Bit 0 [Bad Rcv Int] indicates the interrupt generated by the Universal Serial Controller (USC) is not properly marked • Bit 1 [No EOF] indicates the USC did not report an End of Frame condition when the recieve interrupt was generated • Bit 2 [CRC Error] indicates the USC has reported a Cyclic Redundancy Check (CRC) error on the last frame (message) received • Bit 3 [Overrun Err] indicates the USC has reported a receive firs-in, first out error • Bit 4 [DMA Error] indicates the length of a received message did not match the length encoded in the message itself • Bit 5 [Xmit Underun] indicates the USC has reported a transmit first-in, first-out underrun • Bit 6 [Sync Error] indicates two or more CCLK counter ticks occurred and no message was recieved • Bit 7 [LoopBack Err] indicates failure in the loopback test (the transmit message did not match the receive message). The Drive Module performs this test on power-up and reset. • Bit 8 [Missed Gains] indicates gain data could not be written because memory was being written to when the gain values were received • Bit 9 [Multplx Err] indicates data which is multiplexed into a command/feedback message has not verified correctly • Bit 10 [No PMI OS] indicates the correct PMI operating system is not present in the Drive Module and the PMI is requesting an operating system • Bit 11 [Bad OS Hdr] indicates the Drive Module cannot locate a valid PMI operating system header when attempting to load an operating system to a PMI • Bit 12 [Bad PMI HW] indicates PMI hardware is not compatible with the PMI operating systems in the Drive Module	Default: Options: File: Group:	0000 0000 0000 0000 Bit 0 Bad Rcv Int Bit 1 No EOF Bit 2 CRC Error Bit 3 Overrun Err Bit 4 DMA Error Bit 5 Xmit Underun Bit 6 Sync Error Bit 7 LoopBack Err Bit 8 Missed Gains Bit 9 Multplx Err Bit 10 No PMI OS Bit 11 Bad OS Hdr Bit 12 Bad PMI HW Bit 13 Reserved Bit 14 Reserved Bit 15 Reserved DPS/PMI DPS/PMI

No.	Name Description	Values	
2001	**DM Good Msg Cnt** Displays the number of messages received by the Drive Module from the PMI processor. This is a 16-bit value that rolls over when it reaches its maximum.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read Only, 16-bit Integer DPS/PMI Comm Status
2002	**DM CRC Error Cnt** Displays the number of messages with CRC errors received by Drive Module from the PMI processor. This is a 16-bit value that rolls over when it reaches its maximum.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read Only, 16-bit Integer DPS/PMI DPS/PMI
2003	**DM Frmt ErrorCnt** Displays the number of messages with format errors received by Drive Module from the PMI processor. This is a 16-bit value that rolls over when it reaches its maximum.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read Only, 16-bit Integer DPS/PMI Comm Status
2004	**DM Com Prt Stat** Indicates faults or warnings related to the Drive Module's Drive Communication ports. • Bit 0 [Bad Rcv Int] indicates the interrupt generated by the Universal Serial Controller (USC) is not properly marked • Bit 1 [No EOF] indicates the USC did not report an End of Frame condition when the recieve interrupt was generated • Bit 2 [CRC Error] indicates the USC has reported a Cyclic Redundancy Check (CRC) error on the last frame (message) received • Bit 3 [Overrun Err] indicates the USC has reported a receive firs-in, first out error • Bit 4 [DMA Error] indicates the length of a received message did not match the length encoded in the message itself • Bit 5 [Xmit Underun] indicates the USC has reported a transmit first-in, first-out underrun • Bit 6 [Sync Error] indicates two or more CCLK counter ticks occurred and no message was recieved • Bit 8 [DM Sync Err] indicates two or more CCLK counter ticks occurred and no message was recieved • Bit 9 [Multplx Err] indicates data which is multiplexed into a command/feedback message has not verified correctly • Bit 12 [Bad Start Ad] indicates the operating system is not within the allocated operating system address area • Bit 13 [Bad PMI Mem] indicates there is insuffient memory in the PMI processor for loading the operating system • Bit 14 [Bad Load Ad] indicates the address at which the PMI processor is to load the operating system is invalid • Bit 15 [PMI OverFlow] indicates the loading of the PMI operating system will overrun the PMI stack memory area	Default: Options: File: Group:	0000 0000 0000 0000 Bit 0 Bad Rcv Int Bit 1 No EOF Bit 2 CRC Error Bit 3 Overrun Err Bit 4 DMA Error Bit 5 Xmit Underun Bit 6 Sync Error Bit 7 Reserved Bit 8 DM Sync Err Bit 9 Multplx Err Bit 10 Reserved Bit 11 Reserved Bit 12 Bad Start Ad Bit 13 Bad PMI Mem Bit 14 Bad Load Ad Bit 15 PMI OverFlow DPS/PMI DPS/PMI
2005	**PMI Good Msg Cnt** Displays the number of messages received by the PMI processor from the Drive Module. This is a 16-bit value that rolls over when it reaches its maximum.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read Only, 16-bit Integer DPS/PMI Comm Status

No.	Name Description	Values		
2006	**PMI CRC ErrorCnt** Displays the number of messages with CRC errors received by the PMI processor from the Drive Module. This is a 16-bit value that rolls over when it reaches its maximum.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read Only, 16-bit Integer DPS/PMI DPS/PMI	
2007	**PMIFrmt ErrorCnt** Displays the number of messages with format errors received by the PMI processor from the Drive Module. This is a 16-bit value that rolls over when it reaches its maximum.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read Only, 16-bit Integer DPS/PMI Comm Status	
2008	**DM Link Status** Indicates the current status of Drive Communication. • Bit 1 [Pending OS] indicates the Drive Module is waiting for a request from the PMI processor for an operating system • Bit 2 [Loading OS] indicates the Drive Module is downloading an operating system to the PMI processor • Bit 3 [Setpt Fdbk] indicates the Drive Module and PMI processor are exchanging data • Bit 5 [LoopBack Tst] indicates the Drive Module and PMI processor are performing the loopback test • Bit 6 [Test Mode] indicates tba • Bit 8 [Synchronized] indicates Drive Communication is synchronized • Bit 9 [Unsynchroniz] indicates Drive Communication is not synchronized	Default:	0000 0000 0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15	Reserved Pending OS Loading OS Setpt Fdbk Reserved LoopBack Tst Test Mode Reserved Synchronized Unsynchroniz Reserved Reserved Reserved Reserved Reserved Reserved
		File: Group:	DPS/PMI DPS/PMI	
2009	**DM Tx Msg Count** Displays the number of messages transmitted by the Drive Module. This is a 16-bit value that rolls over when it reaches its maximum.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read Only, 16-bit Integer DPS/PMI Comm Status	
2010	**DM Sync WarngCnt** Displays the number of messages transmitted by the Drive Module, that the PMI processor can not synchronize. This is a 16-bit value that rolls over when it reaches its maximum.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read Only, 16-bit Integer DPS/PMI DPS/PMI	
2011	**DM Bad Msg Cnt** Displays the number of invalid messages transmitted on Drive Communication. This is a 16-bit value that rolls over when it reaches its maximum.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read Only, 16-bit Integer DPS/PMI Comm Status	

No.	Name Description	Values	
2012	**DM Sync Count** Displays the value of an internal counter that synchronizes the Drive Module and PMI processor.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read Only, 16-bit Integer DPS/PMI DPS/PMI
2013	**PMI Gain Count** Displays the number of gain messages sent on Drive Communication. This is a 16-bit value that rolls over when it reaches its maximum.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read Only, 16-bit Integer DPS/PMI DPS/PMI
2014	**DM Tx Time** Displays the value of parameter 2012 [DM Sync Count] when the Drive Module finished transmitting a set point message.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read Only, 16-bit Integer DPS/PMI DPS/PMI
2015	**DM Tx Time Avail** Displays the value of theparameter 2012 [DM Sync Count] when the Drive Module receives a feedback message. This is a good indication of the amount of remaining bandwith on Drive Communication.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read Only, 16-bit Integer DPS/PMI DPS/PMI
2040	**Rail Port 0 Ch 0** Enter the code for the type of Rail I/O on each channel. Refer to section 3.1, "Rail I/O Port Registers", of Reliance Electric publication 3006, *Distributed Power System SD3000 Drive Configuration and Programming*.	Default: Min: Max: Type: File: Group:	0 0 65535 Linkable, Read-Write, 16-bit Integer DPS/PMI DPS/PMI
2041	**Rail Port 0 Ch 1** Enter the code for the type of Rail I/O on each channel. Refer to section 3.1, "Rail I/O Port Registers", of Reliance Electric publication 3006, *Distributed Power System SD3000 Drive Configuration and Programming*.	Default: Min: Max: Type: File: Group:	0 0 65535 Linkable, Read-Write, 16-bit Integer DPS/PMI DPS/PMI
2042	**Rail Port 0 Ch 2** Enter the code for the type of Rail I/O on each channel. Refer to section 3.1, "Rail I/O Port Registers", of Reliance Electric publication 3006, *Distributed Power System SD3000 Drive Configuration and Programming*.	Default: Min: Max: Type: File: Group:	0 0 65535 Linkable, Read-Write, 16-bit Integer DPS/PMI DPS/PMI
2043	**Rail Port 0 Ch 3** Enter the code for the type of Rail I/O on each channel. Refer to section 3.1, "Rail I/O Port Registers", of Reliance Electric publication 3006, *Distributed Power System SD3000 Drive Configuration and Programming*.	Default: Min: Max: Type: File: Group:	0 0 65535 Linkable, Read-Write, 16-bit Integer DPS/PMI DPS/PMI

No.	Name Description	Values		
2044	**Rail Port 0 Flt** Indicates faults associated with Rail I/O on the port.	Default:	0000 0000 0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15	Ch0 OvrRange Ch0 UndRange Ch1 OvrRange Ch1 UndRange Ch2 OvrRange Ch2 UndRange Ch3 OvrRange Ch3 UndRange Port NotCntd Bad ID Bad Chk Bits I/O NotRdy Reserved Reserved Reserved Reserved
		File: Group:	DPS/PMI DPS/PMI	
2045	**RailPrt 0FltCnt** Displays number of fault occurences at the port.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read Only, 16-bit Integer DPS/PMI DPS/PMI	
2046	**Rail Port 1 Ch 0** Enter the code for the type of Rail I/O on each channel. Refer to section 3.1, "Rail I/O Port Registers", of Reliance Electric publication 3006, *Distributed Power System SD3000 Drive Configuration and Programming*.	Default: Min: Max: Type: File: Group:	0 0 65535 Linkable, Read-Write, 16-bit Integer DPS/PMI DPS/PMI	
2047	**Rail Port 1 Ch 1** Enter the code for the type of Rail I/O on each channel. Refer to section 3.1, "Rail I/O Port Registers", of Reliance Electric publication 3006, *Distributed Power System SD3000 Drive Configuration and Programming*.	Default: Min: Max: Type: File: Group:	0 0 65535 Linkable, Read-Write, 16-bit Integer DPS/PMI DPS/PMI	
2048	**Rail Port 1 Ch 2** Enter the code for the type of Rail I/O on each channel. Refer to section 3.1, "Rail I/O Port Registers", of Reliance Electric publication 3006, *Distributed Power System SD3000 Drive Configuration and Programming*.	Default: Min: Max: Type: File: Group:	0 0 65535 Linkable, Read-Write, 16-bit Integer DPS/PMI DPS/PMI	
2049	**Rail Port 1 Ch 3** Enter the code for the type of Rail I/O on each channel. Refer to section 3.1, "Rail I/O Port Registers", of Reliance Electric publication 3006, *Distributed Power System SD3000 Drive Configuration and Programming*.	Default: Min: Max: Type: File: Group:	0 0 65535 Linkable, Read-Write, 16-bit Integer DPS/PMI DPS/PMI	

No.	Name Description	Values		
2050	**Rail Port 1 Flt** Indicates faults associated with Rail I/O on the port.	Default:	0000 0000 0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15	Ch0 OvrRange Ch0 UndRange Ch1 OvrRange Ch1 UndRange Ch2 OvrRange Ch2 UndRange Ch3 OvrRange Ch3 UndRange Port NotCntd Bad ID Bad Chk Bits I/O NotRdy Reserved Reserved Reserved Reserved
		File: Group:	DPS/PMI DPS/PMI	
2051	**RailPrt 1FltCnt** Displays number of fault occurences at the port.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read Only, 16-bit Integer DPS/PMI DPS/PMI	

No.	Name Description	Values		
2080	**Meter Port1 Sel** Enter a value to configure the output of the meter port.	Default:	Val 0	Zero
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14 Val 15 Val 16 Val 17 Val 18 Val 19 Val 20 Val 21 Val 22 Val 23 Val 24 Val 25 Val 26 Val 27 Val 28	Zero Arm I Ref Ct Arm I FB Ct Arm I FB A Arm Voltage Arm Max Ang Arm Ang Arm Min Ang Fld I Ref Ct Fld I FB Ct Fld I FB A Fld Voltage Fld Max Ang Fld Ang Fld Min Ang Cntr EMF V AC Volts User An In Spd FB RPM App Data Rail Prt0 C0 Rail Prt0 C1 Rail Prt0 C2 Rail Prt0 C3 Rail Prt1 C0 Rail Prt1 C1 Rail Prt1 C2 Rail Prt1 C3 Arm Rate Out
		File: Group:	DPS/PMI DPS/PMI	
2081	**MeterP1 +10v Val** Enter the value of the source parameter that correponds to +10V dc output at the meter.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Linkable, Read-Write, 32-bit Integer DPS/PMI DPS/PMI	
2082	**MeterP1 -10v Val** Enter the value of the source parameter that correponds to -10V dc output at the meter.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Linkable, Read-Write, 32-bit Integer DPS/PMI DPS/PMI	

No.	Name Description	Values		
2083	**Meter Port2 Sel** Enter a value to configure the output of the meter port.	Default:	Val 0	Zero
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14 Val 15 Val 16 Val 17 Val 18 Val 19 Val 20 Val 21 Val 22 Val 23 Val 24 Val 25 Val 26 Val 27 Val 28	Zero Arm I Ref Ct Arm I FB Ct Arm I FB A Arm Voltage Arm Max Ang Arm Ang Arm Min Ang Fld I Ref Ct Fld I FB Ct Fld I FB A Fld Voltage Fld Max Ang Fld Ang Fld Min Ang Cntr EMF V AC Volts User An In Spd FB RPM App Data Rail Prt0 C0 Rail Prt0 C1 Rail Prt0 C2 Rail Prt0 C3 Rail Prt1 C0 Rail Prt1 C1 Rail Prt1 C2 Rail Prt1 C3 Arm Rate Out
		File: Group:	DPS/PMI DPS/PMI	
2084	**MeterP2 +10v Val** Enter the value of the source parameter that correponds to +10V dc output at the meter.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Linkable, Read-Write, 32-bit Integer DPS/PMI DPS/PMI	
2085	**MeterP2 -10v Val** Enter the value of the source parameter that correponds to -10V dc output at the meter.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Linkable, Read-Write, 32-bit Integer DPS/PMI DPS/PMI	

No.	Name Description	Values		
2086	**Meter Port3 Sel** Enter a value to configure the output of the meter port.	Default:	Val 0	Zero
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14 Val 15 Val 16 Val 17 Val 18 Val 19 Val 20 Val 21 Val 22 Val 23 Val 24 Val 25 Val 26 Val 27 Val 28	Zero Arm I Ref Ct Arm I FB Ct Arm I FB A Arm Voltage Arm Max Ang Arm Ang Arm Min Ang Fld I Ref Ct Fld I FB Ct Fld I FB A Fld Voltage Fld Max Ang Fld Ang Fld Min Ang Cntr EMF V AC Volts User An In Spd FB RPM App Data Rail Prt0 C0 Rail Prt0 C1 Rail Prt0 C2 Rail Prt0 C3 Rail Prt1 C0 Rail Prt1 C1 Rail Prt1 C2 Rail Prt1 C3 Arm Rate Out
		File: Group:	DPS/PMI DPS/PMI	
2087	**MeterP3 +10v Val** Enter the value of the source parameter that correponds to +10V dc output at the meter.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Linkable, Read-Write, 32-bit Integer DPS/PMI DPS/PMI	
2088	**MeterP3 -10v Val** Enter the value of the source parameter that correponds to -10V dc output at the meter.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Linkable, Read-Write, 32-bit Integer DPS/PMI DPS/PMI	

No.	Name Description	Values		
2089	**Meter Port4 Sel** Enter a value to configure the output of the meter port.	Default:	Val 0	Zero
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14 Val 15 Val 16 Val 17 Val 18 Val 19 Val 20 Val 21 Val 22 Val 23 Val 24 Val 25 Val 26 Val 27 Val 28	Zero Arm I Ref Ct Arm I FB Ct Arm I FB A Arm Voltage Arm Max Ang Arm Ang Arm Min Ang Fld I Ref Ct Fld I FB Ct Fld I FB A Fld Voltage Fld Max Ang Fld Ang Fld Min Ang Cntr EMF V AC Volts User An In Spd FB RPM App Data Rail Prt0 C0 Rail Prt0 C1 Rail Prt0 C2 Rail Prt0 C3 Rail Prt1 C0 Rail Prt1 C1 Rail Prt1 C2 Rail Prt1 C3 Arm Rate Out
		File: Group:	DPS/PMI Commands	
2090	**MeterP4 +10v Val** Enter the value of the source parameter that correponds to +10V dc output at the meter.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Linkable, Read-Write, 32-bit Integer DPS/PMI DPS/PMI	
2091	**MeterP4 -10v Val** Enter the value of the source parameter that correponds to -10V dc output at the meter.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Linkable, Read-Write, 32-bit Integer DPS/PMI DPS/PMI	

No.	Name Description	Values		
2100	**Drive Ctrl Word** Displays the control word sent to the PMI processor. Parameter 166 [Motor Ctrl Cmmd] and the VPL sequencer determine the value of this parameter.	Default:	0000 0000 0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15	CMLoop Run Arm ID Tst Arm AlphaTst ArmRAlph Tst FML Run Fld Id Tst Fld AlphaTst FldRAlph Tst Fault Reset Warng Reset Dsbl BrstFrg Dsbl Fld Wk Dsbl ShrtSCR Open Lop Cur Dsbl Opn SCR Reserved
		File: Group:	DPS/PMI Commands	
2102	**Arm Test Angle** Enter the firing angle for the armature alpha test. Enter a value between 5 degrees (full on) and 180 degrees (full off). The drive module clamps any entry outside this range to be within the limits. Select forward and reverse tests by setting bit 26 [Arm Alph Tst] or bit 28 [ArmRAlph Tst] of parameter 166 [Motor Ctrl Cmmd]. Enter the firing angle value before enabling the test. Attention: Uncontolled machine operation could result with motor connected during this test. This could cause bodily injury. Disconnect motor from drive before enabling test.	Default: Min: Max: Type: File: Group:	Deg 180 5 180 Linkable, Read-Write, 16-bit Integer DPS/PMI Commands	
2103	**Arm Curr Ref** Displays the current reference for the armature current minor loop. A value of 4095 indicates maximum positive current - equal to the value of parameter 122 [Curr PosLim Actl]. A value of -4095 indicates a maximum negative current - equal to the value of parameter 121 [Curr NegLim Actl].	Default: Min: Max: Type: File: Group:	0 -4095 4095 Non-Linkable, Read Only, 16-bit Integer Utility Diagnostics	
2104	**Field Test Angle** Enter the firing angle for the field alpha test. Enter a value between 5 degrees (full on) and 180 degrees (full off). The drive module clamps any entry outside this range to be within the limits. Select forward and reverse tests by setting bit 27 [Fld Alph Tst] or bit 29 [FldRAlph Tst] of parameter 166 [Motor Ctrl Cmmd]. Enter the firing angle value before enabling the test. Attention: Uncontolled machine operation could result with motor connected during this test. This could cause bodily injury. Disconnect motor from drive before enabling test.	Units: Default: Min: Max: Type: File: Group:	Deg 180 5 180 Linkable, Read-Write, 16-bit Integer DPS/PMI Feedback	
2105	**Field Curr Ref** Displays the current reference for the field current minor loop. A value of 4095 indicates hot field current - equal to the value of parameter 2185 [Hot Field Curr].	Default: Min: Max: Type: File: Group:	0 -4095 4095 Linkable, Read-Write, 32-bit Integer Utility Diagnostics	

No.	Name Description	Values	
2106	**PMI D/A Output** The value in the PMI D/A Output register is transmitted to the PMI Processor. The value can then be displayed on one of the four PMI Processor meter ports. This register can contain any variable in the system as long as it is a 16-bit integer. Floating point or double-integer values cannot be displayed on the PMI Processor's D/A meter ports.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Linkable, Read-Write, 32-bit Integer DPS/PMI Feedback
2107	**Field Econ Limit** Sets a limit on the field current reference, when the drive is in field economy mode. A value of 4095 limits the reference to 100% of the current specified by parameter 2185 [Hot Field Curr].	Default: Min: Max: Type:	4095 0 4095 Linkable, Read-Write, 32-bit Integer
2108	**Field Curr Out** Displays the final field current reference. A value of 4095 indicates 100% of the current specified by parameter 2185 [Hot Field Curr].	Default: Min: Max: Type:	4095 0 4095 Non-Linkable, Read Only, 32-bit Integer
2122	**MC Faults** Indicates Motor-Control faults. These bits latch when a Motor-Control fault event occurs. They stay latched until bit 19 [Clear Fault] of parameter 152 [Applied LogicCmd] or bit 19 [Clr Drv Wrn] of parameter 166 [Motor Ctrl Cmmd] is set. If the fault condition remains present, the identifying bit is set again.	Default:	0000 0000 0000 0000 0000 0000 0000 0000
		Options:	Bit 0 SCR Fault Bit 1 M Cont Lost Bit 2 Reserved Bit 3 AC Line Sync Bit 4 InstOvr Curr Bit 5 ConductionTO Bit 6 Field Loss Bit 7 Tach Loss Bit 8 TachWire Opn Bit 9 ResolverCard Bit 10 Over Speed Bit 11 PwrTech Card Bit 12 PMI Pwr Sply Bit 13 PMI Bus Bit 14 Reserved Bit 15 PMI CommLoss Bit 16 Reserved Bit 17 Reserved Bit 18 Reserved Bit 19 Reserved Bit 20 Reserved Bit 21 Reserved Bit 22 Reserved Bit 23 Reserved Bit 24 Reserved Bit 25 Reserved Bit 26 Reserved Bit 27 Reserved Bit 28 Reserved Bit 29 Reserved Bit 30 Reserved Bit 31 Reserved
		File: Group:	Utility, DPS/PMI Diagnostics, Feedback

No.	Name Description	Values		
2123	**MC Warnings** Indicates Motor-Control warnings. These bits latch when a Motor-Control warning event occurs. They stay latched until bit 19 [Clear Fault] of parameter 152 [Applied LogicCmd] or bit 19 [Clr Drv Wrn] of parameter 166 [Motor Ctrl Cmmd] is set. If the warning condition remains present, the identifying bit is set again.	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options:	Bit 0	BrdgNotFirng
			Bit 1	Low AC Line
			Bit 2	Reserved
			Bit 3	LineSyncLoss
			Bit 4	Curr Ref Lim
			Bit 5	ID TestAbort
			Bit 6	Fld OvrCurr
			Bit 7	Arm Fdbk Rev
			Bit 8	CT Fdbk Rev
			Bit 9	Reserved
			Bit 10	Reserved
			Bit 11	Reserved
			Bit 12	PMI Fan Loss
			Bit 13	Rail IO Comm
			Bit 14	PMI CommSync
			Bit 15	PMI Comm
			Bit 16	Reserved
			Bit 17	Reserved
			Bit 18	Reserved
			Bit 19	Reserved
			Bit 20	Reserved
			Bit 21	Reserved
			Bit 22	Reserved
			Bit 23	Reserved
			Bit 24	Reserved
			Bit 25	Reserved
			Bit 26	Reserved
			Bit 27	Reserved
			Bit 28	Reserved
			Bit 29	Reserved
			Bit 30	Reserved
			Bit 31	Reserved
		File: Group:	Utility, DPS/PMI Diagnostics, Feedback	

No.	Name Description	Values		
2124	**Pwr DeviceStatus** Indicates which SCR has shorted or not firing. If an SCR is shorted, bit 0 [SCR Fault] of parameter 2122 [MC Faults] will be set. If an SCR is not firing correctly, bit 0 [BrdgNotFirng] of parameter 2123 [MC Warnings]will be set. For a regenerative drive, this parameter indicates the pair of SCRs that has faulted. For a non-regenerative drive, this parameter indicates the specific SCR that has faulted. The bits of this parameters are set when a fault event is detected. They stay latched until bit 19 [Clear Fault] of parameter 152 [AppliedLogic Cmd] or bit 19 [Clr Drv Wrn] of parameter 166 [Motor Ctrl Cmmd] is set. If the fault event remains present, the identifying bit is set again.	Default:	0000 0000 0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15	SCR 1 Fault SCR 2 Fault SCR 3 Fault SCR 4 Fault SCR 5 Fault SCR 6 Fault SCR 11 Fault SCR 12 Fault SCR 13 Fault SCR 14 Fault SCR 15 Fault SCR 16 Fault Reserved Reserved Reserved Reserved
		File: Group:	DPS/PMI Feedback	
2125	**Interlock Code** The PMI processor performs interlock tests in response to parameter 2100 [Drive Ctrl Word]. If any of the diagnostics fail the PMI processor sets the bit in parameter 2125 [Interlock Code] that corresponds to the first failed diagnostic. The bit stays latched until bit 19 [Clear Fault] of parameter 152 [Applied LogicCmd] or bit 19 [Clr Drv Wrn] of parameter 166 [Motor Ctrl Cìmd] is set. Refer to Reliance Electric publication S-3011-1, Distributed Power System SD3000 Drive Diagnostics, Troubleshooting and Start-Up Guidelines, for information about the interlock diagnostics.	Default:	0000 0000 0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15	Bad CML Req A Par NotLod A Gns NotLod A Flt Rst Rq RPI Missing Fld Not Rdy Fld NotAlwd M-Con NotCls Bad FML Req F Par NotLod F Gns NotLod F Flt Rst Rq Reserved Reserved F FB or Cfg Reserved
		File: Group:	DPS/PMI Feedback	
2126	**AC Line Volt FB** Displays the measured AC RMS line voltage in volts.	Default: Min: Max: Type: File: Group:	Volt 0 0 1000 Non-Linkable, Read Only, Floating Point DPS/PMI Feedback	
2127	**CML Feedback** Displays measured armature current. A value of 4095 indicates maximum positive current - equal to the value of parameter 122 [Curr PosLim Actl]. A value of -4095 indicates a maximum negative current - equal to the value of parameter 121 [Curr NegLim Actl].	Default: Min: Max: Type: File: Group:	0 -4095 4095 Non-Linkable, Read Only, 16-bit Integer DPS/PMI Feedback	

No.	Name Description	Values	
2130	**Counter EMF** Displays the measured counter-EMF voltage, in volts.	Units: Default: Min: Max: Type: File: Group:	Volt 0 -32768 32767 Non-Linkable, Read Only, Floating Point DPS/PMI Feedback
2131	**FML Feedback** Displays measured field current. A value of 4095 indicates hot field current - equal to the value of parameter 2185 [Hot Field Curr].	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -4095 4095 Non-Linkable, Read Only, 16-bit Integer Speed/Posit Fdbk Resolver
2132	**Field Amps Fdbk** Displays measured field current in Amps.	Units: Default: Min: Max: Type: File: Group:	Amps 0 -32768 32767 Non-Linkable, Read Only, Floating Point DPS/PMI Feedback
2133	**Field Volt Fdbk** Displays the field voltage feedback value, in volts. This voltage is calculated based on the AC line voltage and field firing angle.	Units: Default: Min: Max: Type: File: Group:	Volt 0 -32768 32767 Non-Linkable, Read Only, Floating Point DPS/PMI Feedback
2134	**User Anlg Input** Displays the measured user analog input value from the Resolver Feedback connector on the Resolver & Drive I/O module. This value may be accessed through the PMI meter ports.	Default: Min: Max: Type: File: Group:	0 -2048 2048 Non-Linkable, Read Only, 16-bit Integer DPS/PMI Feedback
2135	**Res Scan Posit** Displays the electrical position of the resolver (if used). This register is reset to zero at power-up.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Non-Linkable, Read Only, 16-bit Integer DPS/PMI, DPS/PMI Feedback, Regulator Config
2136	**Res Strobe Posit** Displays the electrical position of the resolver at the time a strobe signal is detected.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Non-Linkable, Read Only, 16-bit Integer DPS/PMI Regulator Config
2137	**Arm Volt FB Cnts** Displays measured armature voltage. A value of 4095 indicates armature voltage - equal to Rated Armature voltage.	Default: Min: Max: Type: File: Group:	0 -4095 4095 Non-Linkable, Read Only, 16-bit Integer DPS/PMI Regulator Config

No.	Name Description	Values	
2149	**NV Faults** Non Volatile storage location for internal module faults. Rockwell development personnel may use the value in this register to debug the module firmware.	Default: Min: Max: Type: File: Group:	0 0 4294967296 Non-Linkable, Read Only, 32-bit Integer DPS/PMI Regulator Config
2150	**CML Crossovr Frq** Enter a value to determine the response of the current minor loop. Higher values improve response. However, higher values may degrade stability.	Units: Default: Min: Max: Type: File: Group:	R/S 200 0 400 Linkable, Read-Write, 16-bit Integer DPS/PMI Regulator Config
2151	**Arm Resistance** Enter the continuous-conduction resistance of the armature, in ohms.	Units: Default: Min: Max: Type: File: Group:	Ohms 0 0 32.767 Linkable, Read-Write, 16-bit Integer DPS/PMI Regulator Config
2152	**Arm TimeConstant** Enter the electric time constant (Te) of the armature, in mS. This is the ratio of armature inductance to armature resistance. If this value is not specified by the motor manufacturer, use the following formula: parameter 2152 [Arm TimeConstant] = 1,000 x L / R; where L is the armature inductance in henries, and R is the hot armature resistance in ohms. The ID test will provide a value that takes into account the entire circuit (motor and motor leads), which may be different from a value from the motor manufacturer or the calculation.	Units: Default: Min: Max: Type: File: Group:	mSec 0 0 500 Linkable, Read-Write, 16-bit Integer DPS/PMI Regulator Config
2153	**Arm ContCurr Lvl** The amount of current at the threshold of continuous conduction, in Amps. The armature ID test will automatically generate this value.	Units: Default: Min: Max: Type: File: Group:	Amps 0 0 3276.7 Linkable, Read-Write, 16-bit Integer DPS/PMI Regulator Config
2154	**FML Crossovr Frq** Enter a value to determine the response of the field regulation loop. Higher values improve response. However, higher values may degrade stability.	Units: Default: Min: Max: Type: File: Group:	R/S 15 0 75 Linkable, Read-Write, 16-bit Integer DPS/PMI Regulator Config
2155	**Field Resistance** Enter the resistance of the field, in ohms.	Units: Default: Min: Max: Type: File: Group:	Ohms 0 0 3276.7 Linkable, Read-Write, 16-bit Integer DPS/PMI Regulator Config

No.	Name Description	Values	
2156	**Fld TimeConstant** Enter the electric time constant (Tf) of the field, in mS. This is the ratio of field inductance to field resistance. If this value is not specified by the motor manufacturer, use the following formula: parameter 2156 [Fld TimeConstant] = 1,000 x L /R; where L is the field inductance in henries, and R is the field resistance in ohms. The ID test will provide a value that takes into account the entire circuit (motor and motor leads), which may be different from a value from the motor manufacturer or the calculation.	Units: Default: Min: Max: Type: File: Group:	mSec 0 0 32767 Linkable, Read-Write, 16-bit Integer DPS/PMI Regulator Config
2157	**SCR Diag Gain** Determines how fast error builds up in the Open SCR diagnostics. Increase the value if warnings need to be annunciated quickly. A value of 100 (the default) means the gain is 1 (100/100). A value of 500 (the maximum) means the gain is 5 time the error (500/100).	Default: Min: Max: Type: File: Group:	100 1 500 Linkable, Read-Write, 16-bit Integer DPS/PMI Regulator Config
2158	**SCR Decay Rate** Determines how much error is retained from calculation to calculation. Decrease the value when nuisance warnings are occuring due to large cyclic loads.	Default: Min: Max: Type: File: Group:	99 1 99 Linkable, Read-Write, 16-bit Integer DPS/PMI Regulator Config
2159	**SCR Deadband** Determines the amount of imbalance (in percent) ignored by Open SCR diagnostics, (e.g., when the value is 20, the diagnostics will ignore imbalances of less than 20%). Increasing the value reduces the sensitivity of the diagnostics - reducing nuisance warnings that may occur due to small imbalances between the SCRs.	Default: Min: Max: Type: File: Group:	10 0 50 Linkable, Read-Write, 16-bit Integer DPS/PMI Regulator Config
2160	**SCR Trip Point** Determines the threshold of integrated error that cause a warning to be annunciated. Increasing the value reduces the sensitivity of the Open SCR diagnostics.	Default: Min: Max: Type: File: Group:	1500 1500 3000 Linkable, Read-Write, 16-bit Integer DPS/PMI Motor Data
2161	**Resolver Gain** The amount of gain used to compensate for varying lengths of resolver wiring. Set to zero to enable automatic calibration test on power-up. Values range from 0-255 counts, with 1 count representing .15 volts gain.	Default: Min: Max: Type: File: Group:	0 0 255 Linkable, Read-Write, 16-bit Integer DPS/PMI Motor Data
2162	**Resolver Balance** The amount of capacitance that is added to the sine or cosine channel of the resolver to compensate for varying lengths of resolver wiring. Values from 1 to 39 add capacitance to the cosine channel, while values from 41 to 79 add capacitance to the sine channel.	Default: Min: Max: Type: File: Group:	40 0 79 Linkable, Read-Write, 16-bit Integer DPS/PMI Motor Data

No.	Name Description	Values	
2163	**CML Ref Rate** Controls the current reference ramp block within the PMI processor. Leave at default for most applications, which sets the rate equal to parameter 354[Curr Rate Limit].	Default: Min: Max: Type: File: Group:	4095 1 4095 Linkable, Read-Write, 16-bit Integer DPS/PMI Motor Data
2180	**Motor NP RPM** Set to the motor nameplate rated RPM.	Units: Default: Min: Max: Type: File: Group:	RPM 1750 1 30000 Non-Linkable, Read-Write, 16-bit Integer Torque Control Current
2181	**Overspd Trip Pt** Set the overspeed trip point for overspeed detection in the PMI processor.	Units: Default: Min: Max: Type: File: Group:	RPM 2000 1 30000 Non-Linkable, Read-Write, 16-bit Integer DPS/PMI Motor Data
2182	**Motor NP FLA** Set to the motor nameplate full load amps.	Units: Default: Min: Max: Type: File: Group:	Amps 1 1 3276.7 Non-Linkable, Read-Write, 16-bit Integer DPS/PMI Motor Data
2183	**Motor NP Volts** Set to the motor nameplate rated volts.	Units: Default: Min: Max: Type: File: Group:	Volt 1 1 32767 Non-Linkable, Read-Write, 16-bit Integer DPS/PMI Motor Data
2184	**PMI Curr Lim** Provides positive and negative current limit values within the PMI processor. If this value is les than parameter 120[Current PosLimit] and the absolute value of parameter 119 [Current NegLimit], this value will set both the positive and negative actual current limits.	Units: Default: Min: Max: Type: File: Group:	% 100 100 400 Non-Linkable, Read-Write, 16-bit Integer DPS/PMI Motor Data
2185	**Hot Field Curr** Set to the Hot Amps value on the motor nameplate.	Units: Default: Min: Max: Type: File: Group:	Amps 0.10 0.01 327.67 Non-Linkable, Read-Write, 16-bit Integer Speed Control Regulator

No.	Name Description	Values	
2186	**Min Field Curr** Set to the minimum amps value on the motor nameplate.	Units: Default: Min: Max: Type: File: Group:	Amps 0.10 0.01 99.99 Non-Linkable, Read-Write, 16-bit Integer DPS/PMI Motor Data
2187	**Field Loss Amps** Set the under-current trip point for field loss detection in the PMI processor.	Units: Default: Min: Max: Type: File: Group:	Amps 0.10 0.01 99.99 Non-Linkable, Read-Write, 16-bit Integer Speed Control Regulator
2188	**Field Off Delay** Set the amount of time the field will remain energized after a fault condition. (1 to 300S)	Units: Default: Min: Max: Type: File: Group:	Sec 180 1 300 Non-Linkable, Read-Write, 16-bit Integer DPS/PMI Motor Data
2189	**Motor Inertia** The time, in seconds, for the motor (not coupled to load) to accelerate from zero to base sped, at rated motor torque. The drive calculates Motor Inertia during the auto-tune procedure.	Units: Default: Min: Max: Type: File: Group:	Sec 0.4 0.01 655 Linkable, Read-Write, Floating Point DPS/PMI Drive Config
2190	**Total Inertia** The time, in seconds, for a motor coupled to a load to accelerate from zero to base speed, at rated motor torque. The drive calculates Total Inertia during the auto-tune procedure.	Units: Default: Min: Max: Type: File: Group:	Sec 2 0.01 655 Linkable, Read-Write, Floating Point DPS/PMI Drive Config

No.	Name Description	Values		
2200	**PMI Drive Config** Set bits to configure the PMI processor. • Bits 0-7 [PMI OS Sel] indicate the catalog number of the Drive Module (do not modify these settings). • Bit 8 [Arm Reg Used] enables control of the motor armature. • Bit 9 [Rev Bdge Usd] enables control of a regenerative armature bridge. • Bit 10 [S12 Config] enables twelve-pulse control. • Bit 11 [M-Cont Used] enables Drive Module control of the main contactor. • Bit 12 [Fld Reg Used] enables control of the motor field. • Bit 13 [4 quad fld] enables four-quadrant control of the motor field. • Bit 14 [3ph fld gene] is not used.	Default:	0000 0000 0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15	PMI OS Sel PMI OS Sel PMI OS Sel PMI OS Sel PMI OS Sel PMI OS Sel PMI OS Sel PMI OS Sel Arm Reg Used Rev Bdge Usd S12 Config M-Cont Used Fld Reg Used 4 quad fld 3ph fld gene Reserved
		File: Group:	DPS/PMI Drive Config	
2201	**PMI I/O Config** Set bits to configure the rail I/O and speed feedback in the PMI processor. • Bits 0-3 [Prt 0 Config] form a nibble that configures the port 0 rail I/O and bits 4-7 [Prt 1 Config] form a nibble that configures the port 1 rail I/O: 0 = no I/O, 1 = Digital I/O, 2 = 2 Channel Analog Input / 2 Channel Analog Output, 3 = 4 Channel Analog Output, 4 = 4 Channel Analog Input. • Bits 8-11 [Res Type] form a nibble that configures the resolver type: 0 = no resolver, 1 = 1 x resolver, 2 = 2 x resolver, 3 = 5 x resolver. • Bits 12-15 [SpdFdbk Type] form a nibble that configures the speed feedback type: 0 = no speed feedback, 1 = analog tachometer, 2 = resolver.	Default:	0010 0001 0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15	Prt 0 Config Prt 0 Config Prt 0 Config Prt 0 Config Prt 1 Config Prt 1 Config Prt 1 Config Prt 1 Config Res Type Res Type Res Type Res Type SpdFdbk Type SpdFdbk Type SpdFdbk Type SpdFdbk Type
		File: Group:	DPS/PMI Drive Config	
2202	**AC LineVolt(RMS)** Enter the nominal input voltage to the Armature Power Module. The PMI processor uses this value to determine the threshold (15% below this value) for indicating the low AC line voltage warning.	Units: Default: Min: Max: Type: File: Group:	Volt 230 10 32767 Non-Linkable, Read-Write, 16-bit Integer DPS/PMI Drive Config	
2203	**Out Volt Rating** Enter the Power Module rated output voltage, from the Power Module's nameplate.	Units: Default: Min: Max: Type: File: Group:	Volt 1 10 32767 Non-Linkable, Read-Write, 16-bit Integer DPS/PMI Drive Config	

No.	Name Description	Values	
2204	**Out Curr Rating** Enter the Power Module rated DC output Amps, from the Power Module's nameplate.	Units: Default: Min: Max: Type: File: Group:	Amps 1 1 32767 Non-Linkable, Read-Write, 16-bit Integer DPS/PMI Drive Config
2205	**Curr Xfmr Ratio** Defines the input to output ratio of the current transformer in the Armature Power Module.	Default: Min: Max: Type: File: Group:	1 1 32767 Non-Linkable, Read-Write, 16-bit Integer DPS/PMI Drive Config
2206	**Field AC In Volt** Enter the nominal voltage at the Field Power Module input. If an isolation transformer is used, enter the secondary voltage.	Units: Default: Min: Max: Type: File: Group:	Volt 1 1 32767 Non-Linkable, Read-Write, 16-bit Integer DPS/PMI Drive Config
2207	**Fld OutCurrRatng** Enter the Field Power Module's DC Amps output rating. This value can be found on the Power Module's nameplate.	Units: Default: Min: Max: Type: File: Group:	Amps 15 1 327.67 Non-Linkable, Read-Write, 16-bit Integer Monitor Drive Data
2208	**Anlg Tach Volts** Enter the tachometer voltage that will be present when the motor is turning at the speed specified in parameter 2181[Overspd Trip Pt].	Units: Default: Min: Max: Type: File: Group:	Volt 5 5 327.67 Non-Linkable, Read-Write, 16-bit Integer DPS/PMI Drive Config

No.	Name Description	Values	
2209	**Ph Xfmr In Volt** The voltage at the primary of the phasing transformer, which produces 6.3V at the secondary. Typically this equals the value in parameter 2202 [AC LineVolt(RMS)].	Units: Default: Min: Max: Type: File: Group:	Volt 230 10 32767 Non-Linkable, Read-Write, 16-bit Integer DPS/PMI Drive Config
2213	**Pwr Config Code** For internal use.	Default: Min: Max: Type: File: Group:	0 0 256 Non-Linkable, Read Only, 16-bit Integer DPS/PMI Drive Config
2214	**PMI OS Version** Indicates Operating System version for the PMI processor.	Default: Min: Max: Type: File: Group:	0 0 255 Non-Linkable, Read Only, 16-bit Integer DPS/PMI Drive Config

Parameter Cross Reference By Name

Name	No.
Abs OverSpd Lim	335
AC Line Volt FB	2126
AC LineVolt(RMS)	2202
Accel Time	32
Act Motor Posit	763
Alarm Status 1	326
Alarm Status 2	327
Anlg Tach Posit	241
Anlg Tach Spd FB	240
Anlg Tach Volts	2208
Applied LogicCmd	152
Arm ContCurr Lvl	2153
Arm Curr Ref	2103
Arm Resistance	2151
Arm Test Angle	2102
Arm TimeConstant	2152
Arm Volt FB Cnts	2137
Arm Volts Posit	243
Arm Volts Spd FB	242
Atune Spd Ref	19
Aux Posit Ref	743
CML Crossovr Frq	2150
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SL Buf Int Rx08	1089
SL Buf Int Rx09	1091
SL Buf Int Rx10	1093
SL Buf Int Rx11	1095
SL Buf Int Rx12	1097
SL Buf Int Rx13	1099
SL Buf Int Rx14	1101
SL Buf Int Rx15	1103
SL Buf Int Rx16	1105
SL Buf Int Rx17	1107
SL Buf Int Rx18	1109
SL Buf Int Rx19	1111
SL Buf Int Rx20	1113
SL Buf Int Rx21	1115
SL Buf Int Rx22	1117
SL Buf Int Rx23	1119
SL Buf Int Rx24	1121
SL Buf Int Rx25	1123
SL Buf Int Rx26	1125
SL Buf Int Rx27	1127
SL Buf Int Rx28	1129
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SL Buf Int Tx01	1163
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SL Buf Int Tx06	1173
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SL Buf Int Tx08	1177
SL Buf Int Tx09	1179
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SL Buf Int Tx13	1187
SL Buf Int Tx14	1189
SL Buf Int Tx15	1191
SL Buf Int Tx16	1193
SL Buf Int Tx17	1195
SL Buf Int Tx18	1197
SL Buf Int Tx19	1199
SL Buf Int Tx20	1201
SL Buf Int Tx21	1203
SL Buf Int Tx22	1205
SL Buf Int Tx23	1207
SL Buf Int Tx24	1209
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SL Buf Int Tx26	1213
SL Buf Int Tx27	1215
SL Buf Int Tx28	1217
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SL Buf Real Rx03	1080
SL Buf Real Rx04	1082
SL Buf Real Rx05	1084
SL Buf Real Rx06	1086
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SL Buf Real Rx09	1092
SL Buf Real Rx10	1094
SL Buf Real Rx11	1096
SL Buf Real Rx12	1098
SL Buf Real Rx13	1100
SL Buf Real Rx14	1102
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Name	No.
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SL Buf Real Rx17	1108
SL Buf Real Rx18	1110
SL Buf Real Rx19	1112
SL Buf Real Rx20	1114
SL Buf Real Rx21	1116
SL Buf Real Rx22	1118
SL Buf Real Rx23	1120
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SL Buf Real Tx08	1178
SL Buf Real Tx09	1180
SL Buf Real Tx10	1182
SL Buf Real Tx11	1184
SL Buf Real Tx12	1186
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SL Buf Real Tx14	1190
SL Buf Real Tx15	1192
SL Buf Real Tx16	1194
SL Buf Real Tx17	1196
SL Buf Real Tx18	1198
SL Buf Real Tx19	1200
SL Buf Real Tx20	1202

Name	No.
SL Buf Real Tx21	1204
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SL Buf Real Tx23	1208
SL Buf Real Tx24	1210
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SL Buf Real Tx26	1214
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Spd Reg Damping	91
Spd Reg Droop	86
Spd Reg I Gain	82
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Interpretting Drive Module Faults in DriveExecutive

The Fault Words tab of the Fault and Alarm window of DriveExecutive allows you to view several parameters. These parameters have individual bits associated with faults or conditions. If the bit is 0, the fault is not present or the condition is false. If the bit is 1, the fault is present or the condition is true.

Parameter 169 [Drive I/O Status]

The bits in this parameter indicate the current state of the inputs on the Resolver & Drive I/O module.

Bit	Fault Name	Fault Description
Bit 0	Run Perm	This bit reflects the status of the run permissive input signal connected to pin A on the DRIVE I/O connector. When the signal is present, this bit is set. The run permissive input signal typically originates from the drive's coast stop circuitry and is required to turn on parameter 168 [Drive I/O Ctrl] bit 1 [M-Cont Out].
Bit 1	M-Cont Fdbk	This bit reflects the status of the M-contactor feedback input signal, which is connected to the AUX_IN1 input on the Resolver & Drive I/O module.
Bit 2	Aux In 2	This bit reflects the status of 115 VAC auxiliary input 2 on the Resolver & Drive I/O module. If an inverting fault breaker is used, this bit is used to reflect the status of the inverting fault breaker input signal.
Bit 3	Aux In 3	This bit reflects status of 115 VAC auxiliary input 3 on the Resolver & Drive I/O module. If Power Module air loss is being monitored, this bit reflects the status of the Power Module's air loss signal. An air flow sensor in the Power Module generates this signal.
Bit 4	Aux In 4	This bit reflects the status of 115 VAC auxiliary input 4 on the Resolver & Drive I/O module. If the motor's thermal switch is being monitored, this bit reflects the status of the switch's signal.
Bit 5	Aux In 5	This bit reflects the status of 115 VAC auxiliary input 5 on the Resolver & Drive I/O module.
Bit 6	Res Gain OK	This bit is set when the resolver gain calibration procedure is completed. This procedure is performed when the value stored in parameter 2161 [Resolver Gain] equals zero.

Bit	Fault Name	Fault Description
Bit 7	Res Bal OK	This bit is set when the resolver balance calibration procedure is complete. This procedure is performed when parameter 168 [Drive I/O Ctrl] bit 6 [Enbl Res Bal] is set and the motor is turning.
Bit 8	StrobeDetect	This bit is set when the external strobe on the motor's resolver is detected. Parameter 2136 [Res Strobe Posit] displays the position of the resolver at the time of the strobe. Note that this bit is set for only one scan allowing a strobe to be detected every scan. The Logix task must check the External Strobe Detected bit each scan to ensure the validity of the strobe data in Parameter 2136.
Bit 9	Strobe Level	This bit is set or reset when the external strobe is detected. It indicates whether the external strobe level was rising (1) or falling (0).

Parameter 323 [Fault Status 1]

This parameter indicates the occurance of exception events that have been configured as fault conditions. These events are from parameter 320 [Exception Event1]. These bits are latched until they are reset by setting bit 19 [Clear Fault] of parameter 152 [Applied LogicCmd]. After turning the Clear Fault bit on, the drive may be re-started after turning the command bits off and then back on again. If the fault conditions still exist, the identifying bit in this parameter will immediately be set again. The fault conditions reported in this register result in turning off the drive.

Bit	Fault Name	Fault Description
Bit 0	Abs OverSpd	Motor speed has exceed the value in parameter 335 [Abs OverSpd Lim].
Bit 1	SpdRef Decel	The drive has failed to achieve a zero speed condition.
Bit 6	Ctrl EE Mem	Not Used
Bit 7	Slink HW	Not Used
Bit 8	Slink Comm	A SynchLink communication failure has occurred. These faults are enumerated in parameter 1229 [SL Error Status].
Bit 10	Mtr OL Trip	A Mtr OL Trip exception event has faulted the drive module. Refer to parameter 371 [Mtr OL Trip Cnfg], parameter 336 [Service Factor], parameter 337 [Mtr I2T Curr Min], and parameter 338 [Mtr I2T Spd Min].
Bit 11	Mtr OL Pendg	A Mtr OL Pendg exception event has faulted the drive module. Refer to parameter 372 [Mtr OL Pend Cnfg], parameter 336 [Service Factor], parameter 337 [Mtr I2T Curr Min], and parameter 338 [Mtr I2T Spd Min].

Bit	Fault Name	Fault Description
Bit 12	Motor Stall	A motor stall has lasted longer than the time specified by parameter 373 [Motor Stall Time]. This has faulted the drive module. Refer to parameter 374 [Moter Stall Cnfg].
Bit 18	DSP Mem Err	Flash memory does not match the SRAM memory.
Bit 19	DSP Err	The drive has failed to complete DSP (VPL) interrupt tasks in the allotted time.

Parameter 324 [Fault Status 2]

This parameter indicates the presence of certain drive anomolies that caused the drive to fault (stop). These are the same events shown in parameter 321 [Exception Event 2]. These bits are latched until they are reset by setting bit 19 [Clear Fault] of parameter 152 [Applied LogicCmd]. After turning the Clear Fault bit on, the drive may be re-started after turning the command bits off and then back on again. If the fault conditions still exist, the identifying bit in this parameter will immediately be set again. The fault conditions reported in this register result in turning off the drive.

Bit	Fault Name	Fault Description
7	Slink Mult	SynchLink Multiply failure has occurred. These faults are enumerated in parameter 1034 [SL Mult State].
26	Drv Fault	A motor control fault event has occurred. Motor control faults are enumerated in parmeter 2122 [MC Faults].
27	Drv Warning	A motor control warning event has occured. Motor control warnings are enumerated in parmeter 2123 [MC Warnings].
28	Lgx OutOfRun	The Logix Controller is out of the run mode.
29	Lgx Timeout	Communications with the Logix Controller has timed out.
30	Lgx Closed	The Logix Controller has closed a connection to the Drive Module.
31	Lgx LinkChng	A required parameter link relating to a communications connection has been modified.

Parameter 326 [Alarm Status 1]

This parameter indicates the occurance of exception events that have been configured as alarm conditions. These events are from parameter 320 [Exception Event1].

Bit	Fault Name	Fault Description
Bit 0	Abs OverSpd	Motor speed has exceed the value in Parameter 335 [Abs OverSpd Lim].
Bit 1	SpdRef Decel	The drive has failed to achieve a zero speed condition.
Bit 6	Ctrl EE Mem	Not Used
Bit 7	SLink HW	Not Used
Bit 8	SLink Comm	A SynchLink communication failure has occurred. These faults are enumerated in parameter 1229 [SL Error Status].
Bit 10	Mtr OL Trip	A Mtr OL Trip exception event has alarmed the drive module. Refer to parameter 371 [Mtr OL Trip Cnfg], parameter 336 [Service Factor], parameter 337 [Mtr I2T Curr Min], and parameter 338 [Mtr I2T Spd Min].
Bit 11	Mtr OL Pendg	A Mtr OL Pendg exception event has alarmed the drive module. Refer to parameter 372 [Mtr OL Pend Cnfg], parameter 336 [Service Factor], parameter 337 [Mtr I2T Curr Min], and parameter 338 [Mtr I2T Spd Min].
Bit 12	Motor Stall	A motor stall has lasted longer than the time specified by parameter 373 [Motor Stall Time]. This has alarmed the drive module. Refer to parameter 374 [Moter Stall Cnfg].
Bit 18	DSP Mem Err	Flash memory does not match the SRAM memory.
Bit 19	DSP Err	The drive has failed to complete DSP (VPL) interrupt tasks in the allotted time.

Parameter 327 [Alarm Status 2]

This parameter indicates the occurance of exception events that have been configured as alarm conditions. These are the same events shown in parameter 321 [Exception Event 2].

Bit	Fault Name	Fault Description
7	Slink Mult	SynchLink Multiply failure has occurred. These faults are enumerated in parameter 1034 [SL Mult State].
26	Drv Fault	A motor control fault event has occurred. Motor control faults are enumerated in parmeter 2122 [MC Faults].
27	Drv Warning	A motor control warning event has occured. Motor control warnings are enumerated in parmeter 2123 [MC Warnings].
28	Lgx OutOfRun	The Logix Controller is out of the run mode.

Bit	Fault Name	Fault Description
29	Lgx Timeout	Communications with the Logix Controller has timed out.
30	Lgx Closed	The Logix Controller has closed a connection to the Drive Module.
31	Lgx LinkChng	A required parameter link relating to a communications connection has been modified.

Parameter 1229 [SL Error Status]

This parameter indicates the occurance of SynchLink errors.

Bit	Fault Name	Fault Description
0	Sync Loss	SynchLink communication has failed, after it had been established.
1	Rx Loss	The receive port is not receiving data, and the receive port configuration is set to receive data.
2	Many BOF Err	The number of BOF (Beginning Of Frame) errors accumulated in parameter 1232 [SL BOF Err Accum] exceeds the value in parameter 1235 [SL BOF Err Limit].
3	Many CRC Err	The number of CRC (Cycling Ring Checksum) errors accumulated in parameter 1230 [SL CRC Err Accum] exceeds the value in parameter 1234 [SL CRC Err Limit].
4	Pckg Msg Err	The received package sequence number has not matched for 1.0 S.
5	CommForm Err	The format of received data does not match the configuration of the receive port.
6	Sys Rev Err	The system revision in received data does not match the value of parameter 1001 [SynchLink Rev].
7	Mult TKeeper	More than one node on the SynchLink system is configured as a Time Keeper.

Parameter 2044 [Rail Port 0 Faults]

This parameter indicates the occurance of faults associtated with Rail I/O on Port 0.

Bit	Fault Name	Fault Description
0	Ch0 OvrRange	Analog input on channel 0 is over the maximum value.(1)
1	Ch0 UndRange	Analog input on channel 0 is under the minimum value.(2)
2	Ch1 OvrRange	Analog input on channel 1 is over the maximum value.(1)
3	Ch1 UndRange	Analog input on channel 1 is under the minimum value.(2)
4	Ch2 OvrRange	Analog input on channel 2 is over the maximum value.(1)
5	Ch2 UndRange	Analog input on channel 2 is under the minimum value.(2)
6	Ch3 OvrRange	Analog input on channel 3 is over the maximum value.(1)
7	Ch3 UndRange	Analog input on channel 3 is under the minimum value.(2)
8	Port NotCntd	No device is connected to the port, which is configured to accept a device.
9	Bad ID	A device other than a rail is plugged into the port.
10	Bad Chk Bits	Bad rail communication check bits have been received.
11	IO NotRdy	The I/O interface is not ready.

(1) Analog 4 input 4-20 mA (model number 61C345) maximum value = 22.1 mA
Analog 4 input 0-10V (model number 61C346) maximum value = 11.3V
Analog 2 input / 2 ouput 4-20 mA (model number 61C345) maximum value = 22.6 mA
Analog 2 input / 2 ouput 0-10V (model number 61C346) maximum value = 11.3V

(2) Analog 4 input 4-20 mA (model number 61C345) minimum value = 2.4 mA
Analog 4 input 0-10V (model number 61C346) minimum value = -1.0V
Analog 2 input / 2 ouput 4-20 mA (model number 61C345) minimum value = 2.5 mA
Analog 2 input / 2 ouput 0-10V (model number 61C346) minimum value = -1.0V

Parameter 2050 [Rail Port 1 Faults]

This parameter indicates the occurance of faults associtated with Rail I/O on Port 1.

Bit	Fault Name	Fault Description
0	Ch0 OvrRange	Analog input on channel 0 is over the maximum value.(1)
1	Ch0 UndRange	Analog input on channel 0 is under the minimum value.(2)
2	Ch1 OvrRange	Analog input on channel 1 is over the maximum value.(1)
3	Ch1 UndRange	Analog input on channel 1 is under the minimum value.(2)
4	Ch2 OvrRange	Analog input on channel 2 is over the maximum value.(1)
5	Ch2 UndRange	Analog input on channel 2 is under the minimum value.(2)
6	Ch3 OvrRange	Analog input on channel 3 is over the maximum value.(1)
7	Ch3 UndRange	Analog input on channel 3 is under the minimum value.(2)
8	Port NotCntd	No device is connected to the port, which is configured to accept a device.
9	Bad ID	A device other than a rail is plugged into the port.
10	Bad Chk Bits	Bad rail communication check bits have been received.
11	IO NotRdy	The I/O interface is not ready.

(1) Analog 4 input 4-20 mA (model number 61C345) maximum value = 22.1 mA
Analog 4 input 0-10V (model number 61C346) maximum value = 11.3V
Analog 2 input / 2 ouput 4-20 mA (model number 61C345) maximum value = 22.6 mA
Analog 2 input / 2 ouput 0-10V (model number 61C346) maximum value = 11.3V

(2) Analog 4 input 4-20 mA (model number 61C345) minimum value = 2.4 mA
Analog 4 input 0-10V (model number 61C346) minimum value = -1.0V
Analog 2 input / 2 ouput 4-20 mA (model number 61C345) minimum value = 2.5 mA
Analog 2 input / 2 ouput 0-10V (model number 61C346) minimum value = -1.0V

Parameter 2122 [MC Faults]

This parameter indicates the occurance of a motor-control fault. These bits are set when a fault event is detected. They stay latched until bit 19 [Clear Fault] of parameter 152 [Applied Logic Cmd] or bit 19 [Clr Drv Wrn] of parameter 166 [Motor Ctrl Cmd] is set. If the fault event remains present, the identifying bit is set again.

Bit	Fault Name	Fault Description
0	SCR Fault	An SCR has shorted. Check Parameter 2124 [Pwr DeviceStatus] to determine which SCR has shorted.
1	M Cont Lost	Parameter 169 [Drive I/O Stauts] bit 1 [M-Cont Fdbk] indicated the M-contactor has remained open when it should have been closed.
3	AC Line Sync	AC line voltage has been missing for more than 2 seconds. Refer to parameter 2123 bit 3 [LineSyncLoss].
4	InstOvr Curr	Armature current feedback has exceeded 175% of the value in parameter 2184 [PMI Curr Lim].
5	Conduction TO	The PMI Current Minor Loop has been turned off (parameter 2100 [Drive Ctrl Word] bit 0 [CMLoop Run] equals zero) and discontinuous conduction has not been detected within 2 seconds.
6	Field Loss	A field loss has been detected: • Parameter 2132 [Fld Amps Fdbk] has been less than parameter 2187 [FldLos Trip Pt] for more than 5 times the electrical time constant of the field. This assumes parameter 152 [Applied LogicCmd] bit 30 [Field En] is on. • Parameter 2132 [Fld Amps Fdbk] has been less than parameter 2187 [FldLos Trip Pt] for more than 30mS after the field has been turned on. - • Parameter 2132 [Fld Amps Fdbk] has been greater than 150% of parameter 2185 [Hot Fld Cur] for more than 30mS. • Parameter 2132 [Fld Amps Fdbk] has been greater than parameter 2207 [Fld PMI Rating] for more than 30mS.
7	Tach Loss	CEMF is greater than 40% of the rated armature voltage value and the speed feedback signal is less than 5% of the motor base speed as entered as a configuration parameter.
8	TachWire Opn	A sine or cosine signal being used for speed or other application feedback is missing, due to one of the following causes: • a resolver wiring connection has broken • The value in parameter 2161 [Resolver Gain] is too low. The Drive Module always performs this test if resolver feedback is selected (parameter 222 [Motor Fdbk Sel] equals "0 - Resolver"), and when parameter 168 [Drive I/O Ctrl] bit 10 [Dis Brkn Wire] equals one.

Bit	Fault Name	Fault Description
9	ResolverCard	A fuse on the Resolver & Drive I/O module has blown.
10	Over Speed	The motor's speed has gone above the value in parameter 31 [Fwd Speed Lim] by more than the value in parameter 335 [Abs Overspd Lim], or gone below the value of parameter [Rev Speed Lim] by more than the value in parameter 335.
11	PwrTech Card	The watchdog timer on the D-C Power Technology module has expired. This fault disables the gate firing circuitry.
12	PMI Pwr Sply	The PMI power supply is not working correctly.
13	PMI Bus	There is a bus fault in the PMI rack. This is indicated when the Resolver and Drive I/O module and the DC Power Technology module do not respond to requests from the PMI Processor. This error indicates that there is a hardware problem in the rack.
15	PMI CommLoss	Communication between the PMI processor and the Drive Module has failed.

Parameter 2123 [MC Warnings]

This parameter indicates the occurance of a motor-control warning event. These bits are set when a warning event is detected. They stay latched until bit 19 [Clear Fault] of parameter 152 [Applied Logic Cmd] or bit 19 [Clr Drv Wrn] of parameter 166 [Motor Ctrl Cmd] is set. If the warning event remains present, the identifying bit is set again. Refer to parameter 381 [PMI Warning Cnfg] to configure the Drive Module's response to these warnings.

Bit	Fault Name	Fault Description
0	BrdgNotFirng	Not all SCRs are carrying the same the load. A bit set in the parameter 2124 [Pwr DeviceStatus] indicates which SCR is not working properly.
1	Low AC Line	AC line voltage is less than 85% of its nominal value, which was entered as a configuration parameter. This can be caused by a low-line condition or a missing phase. The system will automatically adjust the phase angle to give the correct current amount and will continue to fire SCRs as long as zero crossings are detected. If zero crossings are no longer detected, a fault condition will result.
3	LineSyncLoss	The system is continuing to operate through a temporary loss of AC line voltage. Refer to bit 3 [AC Line Sync] of parameter 2122 [MC Fault].
4	Curr Ref Lim	The current reference has exceeded the value entered in parameter 2184 [PMI Curr Lim].

Bit	Fault Name	Fault Description
5	ID TestAbort	The drive has failed an armature identification test, field identification test or resolver balance calibration test.
6	Fld OvrCurr	Field current has exceeded 150% of the value in parameter 2185 [Hot Field Curr].
7	Arm Fdbk Rev	Armature feedback wiring is reversed - the polarity of the feedback is the oposite of expected.
8	CT Fdbk Rev	Current transformer feedback is reversed - the polarity of the feedback is the oposite of expected.
12	PMI Fan Loss	Airflow through the PMI rack is not being sensed. A solid-state airflow switch in the PMI power supply monitors airflow.
13	Rail IO Comm	A rail communication warning event has occurred. Parameter 2044 [Rail Port 0 Faul] and parameter 2050 [Rail Port 0 Faul] enumerate these faults.
14	PMI CommSync	The PMI Processor and the Drive Module are momentarily not synchronized.
15	PMI Comm	A fiber-optic communication error has been detected between the PMI Processor module and the Drive Module. Communication errors in two consecutive messages will cause a fault.

Parameter 2124 [Pwr Device Status]

The bits of this parameter indicate which SCR has shorted or not firing. If an SCR is shorted parameter 2122 [MC Faults] bit 0 [SCR Fault] will be set. If an SCR is not firing correctly parameter 2123 [MC Warnings] bit 0 [BrdgNotFirng]will be set.

For a regenerative drive, this parameter indicates the pair of SCRs that has faulted. For a non-regenerative drive, this parameter indicates the specific SCR that has faulted.

The bits of this parameters are set when a fault event is detected. They stay latched until bit 19 [Clear Fault] of parameter 152 [Applied Logic Cmd] or bit 19 [Clr Drv Wrn] of parameter 166 [Motor Ctrl Cmd] is set. If the fault event remains present, the identifying bit is set again.

Bit	Fault Name	Fault Description
0	SCR 1 Fault	SCR 1 Fault (Forward Bridge)
1	SCR 2 Fault	SCR 2 Fault (Forward Bridge)
3	SCR 3 Fault	SCR 3 Fault (Forward Bridge)
4	SCR 4 Fault	SCR 4 Fault (Forward Bridge)
5	SCR 5 Fault	SCR 5 Fault (Forward Bridge)
6	SCR 6 Fault	SCR 6 Fault (Forward Bridge)
7	SCR 11 Fault	SCR 11 Fault (Reverse Bridge)
8	SCR 12 Fault	SCR 12 Fault (Reverse Bridge)
9	SCR 13 Fault	SCR 13 Fault (Reverse Bridge)
10	SCR 14 Fault	SCR 14 Fault (Reverse Bridge)
11	SCR 15 Fault	SCR 15 Fault (Reverse Bridge)
12	SCR 16 Fault	SCR 16 Fault (Reverse Bridge)

Parameter 2125 [Interlock Code]

The PMI processor performs interlock tests in response to parameter 2100 [Drive Ctrl Word]. If any of the diagnostics fail the PMI processor sets the bit in parameter 2125 [Interlock Code] that corresponds to the first failed diagnostic. The bit stays latched until bit 19 [Clear Fault] of parameter 152 [Applied LogicCmd] or bit 19 [Clr Drv Wrn] of parameter 166 [Motor Ctrl CÌmd] is set. Refer to Reliance Electric publication S-3001-1, *Distributed Power System SD3000 Drive Diagnostics, Troubleshooting and Start-Up Guidelines*, for information about the interlock diagnostics.

Bit	Fault Name	Fault Description
0	Bad CML Req	More than one incompatible CML operating mode has been requested at a time in parameter 166 [Motor Ctrl Cmmd]. The following operating modes are mutually exclusive: • Armature Alpha Test • Armature Identification Test • CML Run This bit is also set if you have attempted to restart the drive without resetting the appropriate command bits from parameter 166. Note that the bits in register 166 are edge-sensitive.
1	A Par NotLod	Armature configuration parameters have not been downloaded into the PMI module from the Drive Module.
2	A Gns NotLod	Armature configuration parameters have not been downloaded into the PMI module from the Dive Module.
3	A Flt Rst Rq	The CML Faults Need to be Reset bit is set if previous armature faults (parameter 2122 [MC Faults]) have not been cleared.
4	RPI Missing	The run permissive input on the Resolver & Drive I/O module is not on.
5	Fld Not Rdy	The single-phase field is not on. Note that the CML can-not be executed if the field is not on.
6	Fld NotAlwd	The single-phase field has been requested when the armature identification test or the armature alpha test is running.
7	M-Con NotCls	The M-Contactor did not close at the expected time.
8	Bad FML Req	More than one incompatible Field operating mode is requested at a time in parameter 166 [Motor Ctrl Cmmd]. The following operating modes are mutually exclusive: • Field Alpha Test • Field Identification Test • Field Run This bit is also set if you have attempted to restart the drive without resetting the appropriate command bits from parameter 166. Note that the bits in register 166 are edge-sensitive.

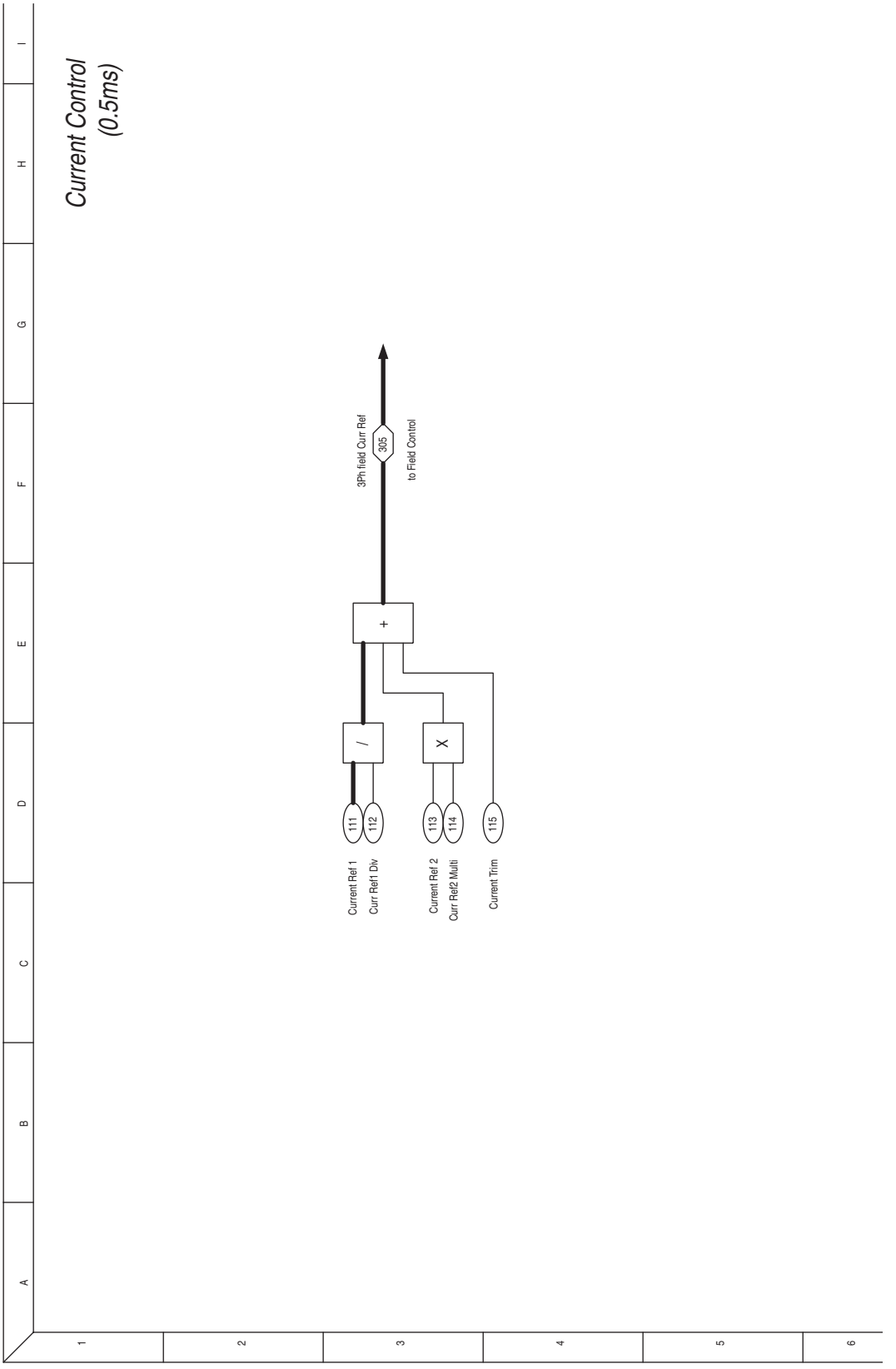
Bit	Fault Name	Fault Description
9	F Par NotLod	Field configuration parameters have not been downloaded into the PMI module from the Dive Module.
10	F Gns NotLod	Field configuration parameters have not been downloaded into the PMI module from the Dive Module.
11	F Flt Rst Rq	Previous field faults (parameter 2122 [MC Faults]), e.g., field loss and line synchronization loss faults, have not been cleared.
14	F FB or CFG	A field current feedback fault or configuration error has occured: • The drive has sensed field current feedback when the field is off. • You have attempted to turn on the field without setting parameter 2200 [PMI Drive Config] bit 12 [Fld Reg Used].

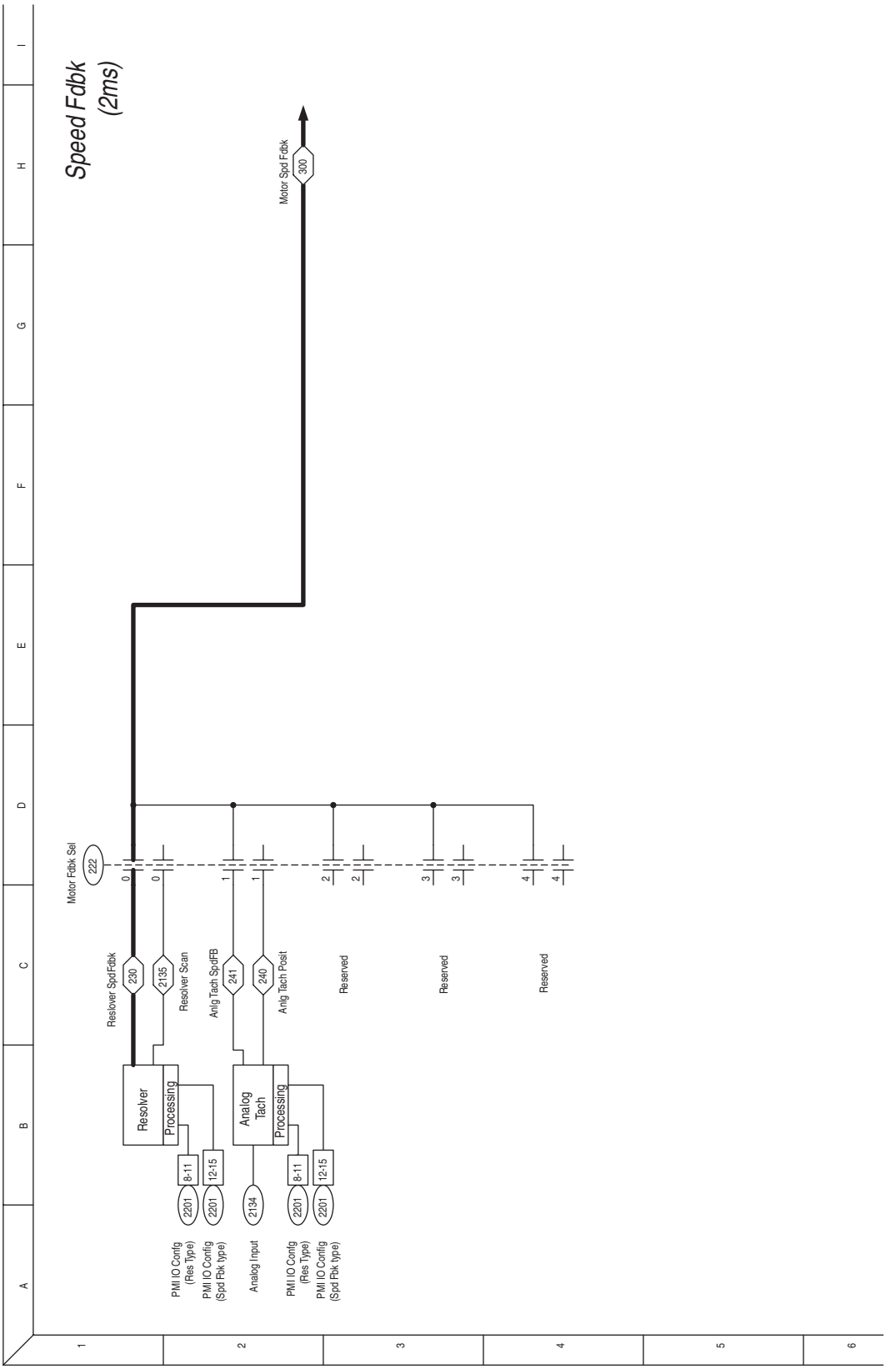
Notes:

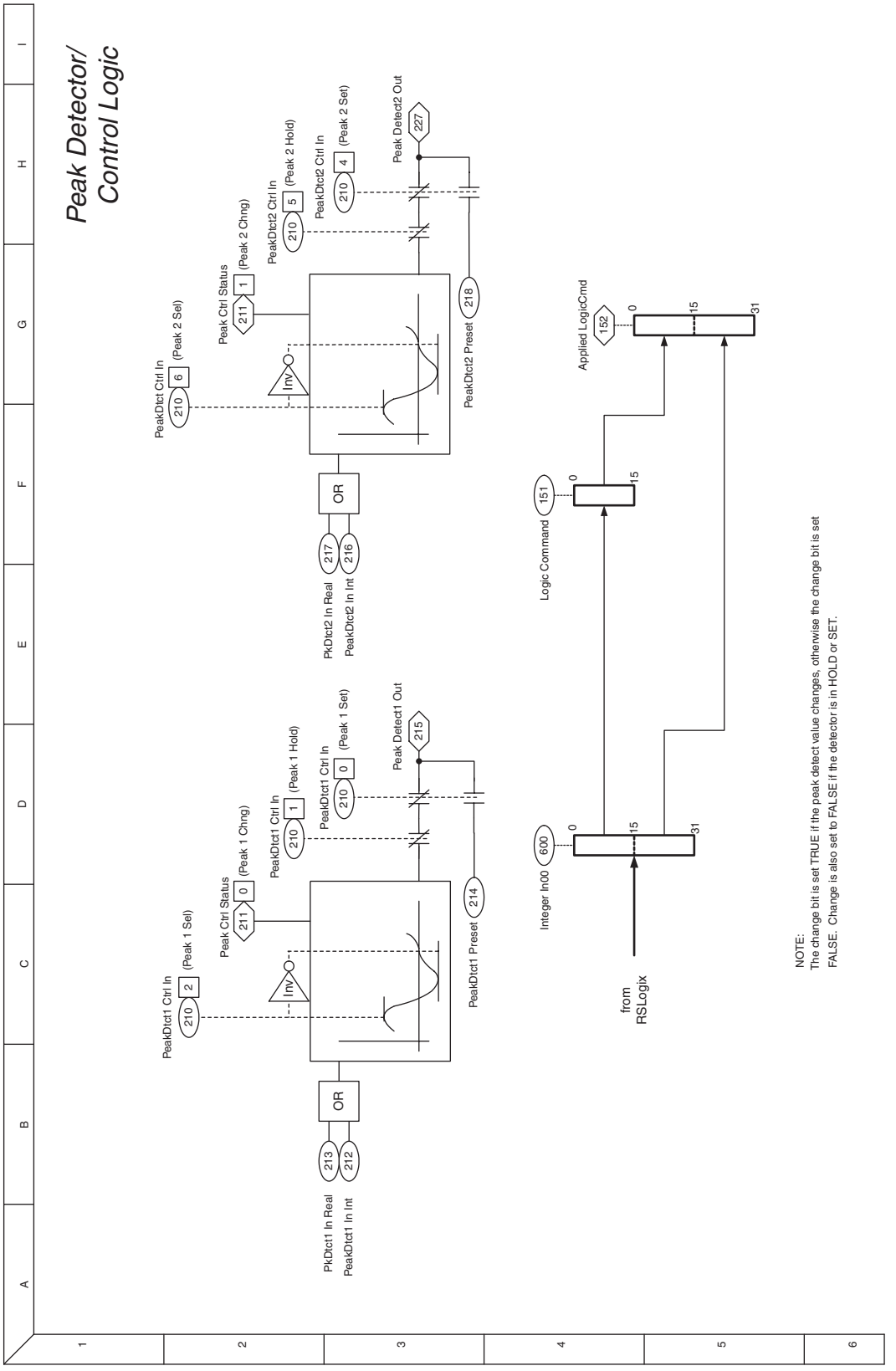
1756-DMF30 Specific Information

This appendix contains information that applies specifically to the 1756-DMF30.

Control Block Diagrams




Speed Fdbk
(2ms)
Motor Spd Fdbk
300
Motor Fdbk Sel
222
Resolver SpdFdbk
230
Resolver Scan
2135
Anlg Tach SpdFB
241
Anlg Tach Posit
240
Reserved
Reserved
Reserved
Resolver
Processing
Analog
Tach
Processing
8-11
12-15
8-11
12-15
2201
2201
2134
2201
2201
PMI IO Config
(Res Type)
PMI IO Config
(Spd Fbk type)
Analog Input
PMI IO Config
(Res Type)
PMI IO Config
(Spd Fbk type)


Peak Detector/
Control Logic
PeakDtct1 Ctrl In
(Peak 1 Sel)
Peak Ctrl Status
(Peak 1 Chng)
PeakDtct1 Ctrl In
(Peak 1 Hold)
PeakDtct1 Ctrl In
(Peak 1 Set)
Peak Detect1 Out
PeakDtct1 Preset
Inv
OR
PkDtct1 In Real
PeakDtct1 In Int
PeakDtct Ctrl In
(Peak 2 Sel)
Peak Ctrl Status
(Peak 2 Chng)
PeakDtct2 Ctrl In
(Peak 2 Hold)
PeakDtct2 Ctrl In
(Peak 2 Set)
Peak Detect2 Out
PeakDtct2 Preset
PkDtct2 In Real
PeakDtct2 In Int
Integer In00
Logic Command
Applied LogicCmd
from
RSLogix
NOTE:
The change bit is set TRUE if the peak detect value changes, otherwise the change bit is set
FALSE. Change is also set to FALSE if the detector is in HOLD or SET.

Parameters

To configure a Drive module to operate in a specific way, drive parameters may have to be set. Three types of parameters exist:

- **ENUM Parameters**
  These parameters allow a selection from 2 or more items
- **Bit Parameters**
  These parameters have individual bits associated with features or conditions. If the bit is 0, the feature is off or the condition is false. If the bit is 1, the feature is on or the condition is true.
- **Numeric Parameters**
  These parameters have a single numeric value (i.e. 0.1 Volts).

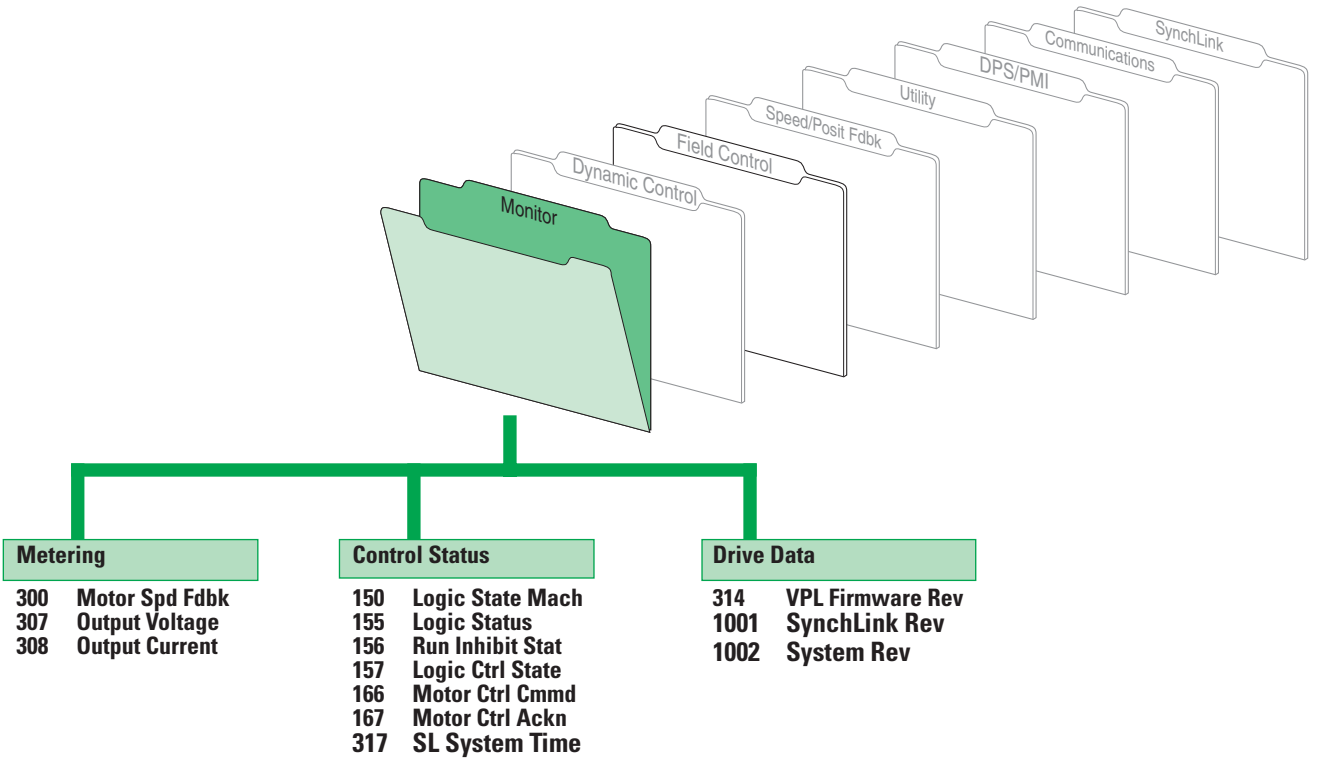
The example on the following page shows how each parameter type is presented in this manual.

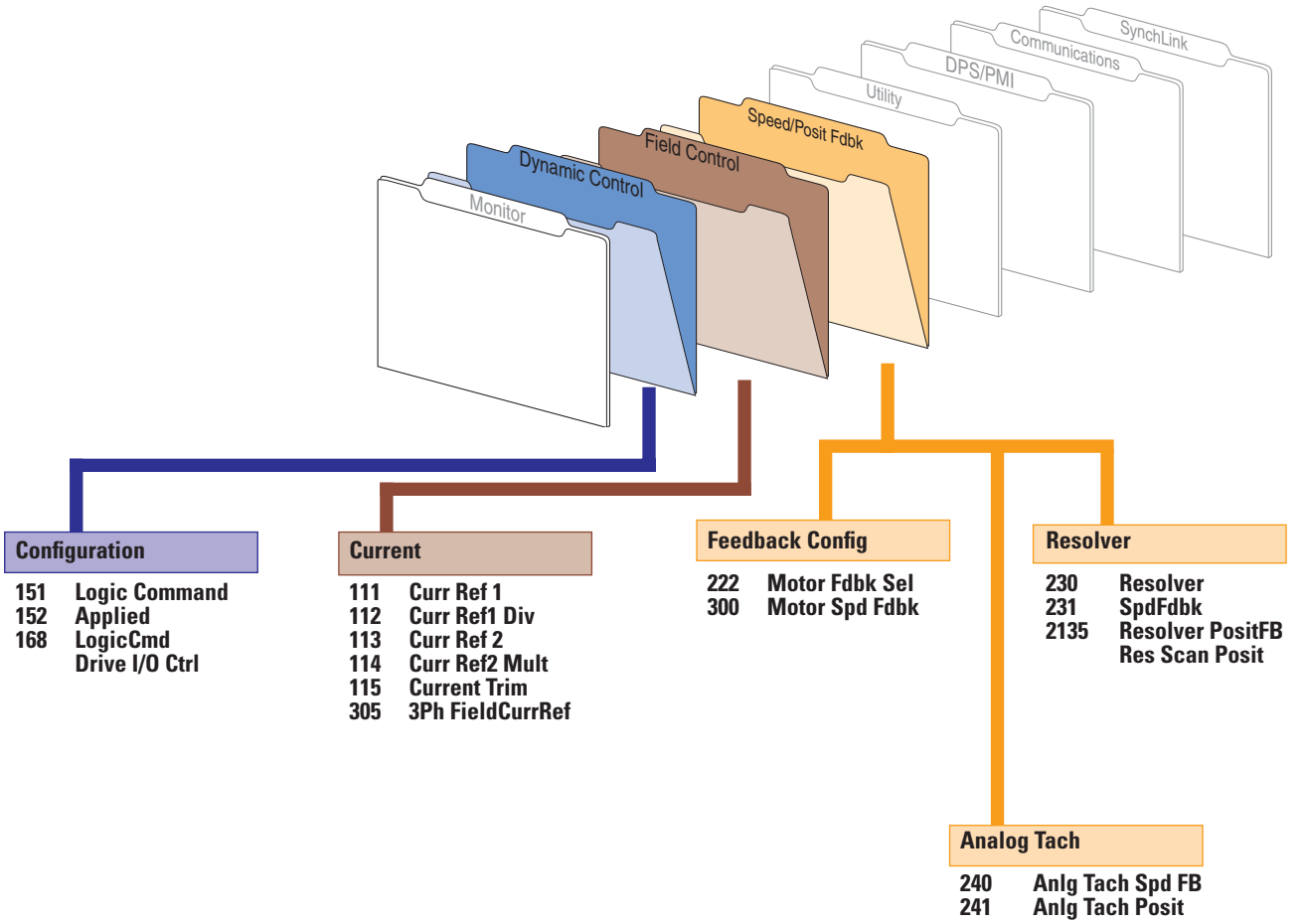
❶	❷	❸		
No.	**Name** **Description**	**Values**		
16	**Speed Ref Sel** Enter or write a value to select the source of the speed reference to the drive.	Default:	Val 1	Spd Ref 1
		Options:	Val 0 Val 1 Val 2	Zero Speed Spd Ref 1 Spd Ref 2
		File: Group:	Speed Control Reference	
80	**Speed Reg Ctrl** Enter or write a value to configure the speed regulator integrator.	Default:	0000 0000	
		Options:	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4	Reserved Preset Sel Integ Hold Integ Reset
		File: Group:	Speed Control Regulator	
11	**Spd Ref1 Divide** Speed Ref 1 is divided by this number. Use this parameter to scale the value of Speed Ref 1.	Default: Min: Max: Type: File: Group:	1 -2200000000 2200000000 Non-Linkable Read-Write Floating Point Speed Control Reference	

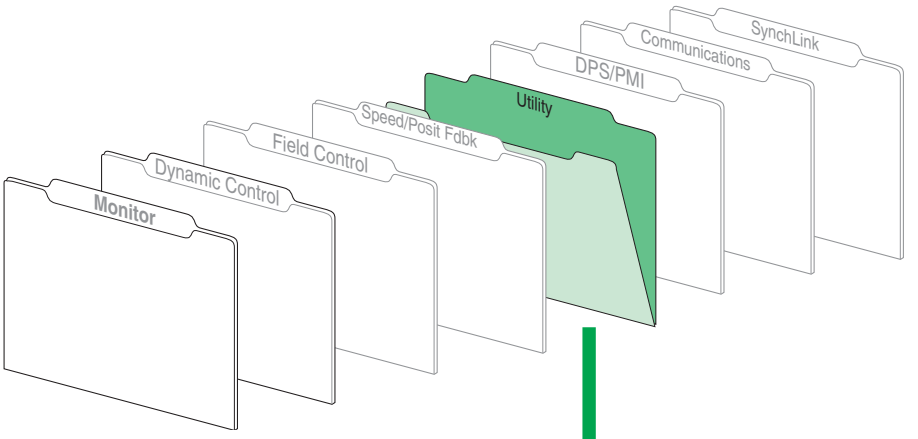
No.	Description		
❶	No. - Parameter Number. = Stop drive before changing this parameter.		
❷	Name - Parameter name as is appears in DriveExecutive software. Description - Brief description of parameter function.		
❸	Values - Defines the various operating characteristics of the parameter. Three types exist		
	ENUM	Default: Options: File: Group:	Lists the value assigned at the factory. Displays the selections available. Lists the major parameter file category. Lists the parameter group within the file.
	Bit	Default: Options: File: Group:	Lists the bit pattern assigned at the factory. Displays the selections available. Lists the major parameter file category. Lists the parameter group within the file.
	Numeric	Default: Min: Max: Type: File: Group	Lists the value assigned at the factory. Displays lowest possible setting. Displays highest possible setting. Indicates if parameter is linkable, read-write, read-only, and data type (i.e. integer, floating point, boolean). Lists the major parameter file category. Lists the parameter group within the file.

How Parameters Are Organized

DriveExecutive programming software displays parameters in “Linear List” or “File Group Parameter” format. Viewing the parameters in “File Group Parameter” format simplifies programming by grouping parameters that are used for similar functions. There are eight files. Each file is divided into multiple groups of parameters.




SynchLink
Communications
DPS/PMI
Utility
Speed/Posit Fdbk
Field Control
Dynamic Control
Monitor
Configuration
151 Logic Command
152 Applied
168 LogicCmd
Drive I/O Ctrl
Current
111 Curr Ref 1
112 Curr Ref1 Div
113 Curr Ref 2
114 Curr Ref2 Mult
115 Current Trim
305 3Ph FieldCurrRef
Feedback Config
222 Motor Fdbk Sel
300 Motor Spd Fdbk
Resolver
230 Resolver
231 SpdFdbk
2135 Resolver PositFB
Res Scan Posit
Analog Tach
240 Anlg Tach Spd FB
241 Anlg Tach Posit



Fault/Alm Config

369	SL CommLoss Cnfg
370	SL CommLoss Data
381	PMI Warning Cnfg
382	Lgx OutOfRunCnfg
383	Lgx Timeout Cnfg
384	Lgx Closed Cnfg
385	Lgx LinkChngCnfg
386	Lgx CommLossData
387	SL MultErr Cnfg

Diagnostics

167	Motor Ctrl Ackn
169	Drive I/O Status
316	SynchLink Status
320	Exception Event1
321	Exception Event2
323	Fault Status 1
324	Fault Status 2
326	Alarm Status 1
327	Alarm Status 2
1229	SL Error Status
1230	SL CRC Err
1231	Accum
1232	SL CRC Error
1233	SL BOF Err
1234	Accum
1235	SL BOF Error
2122	SL CRC Err Limit
2123	SL BOF Err Limit
2124	MC Faults
2125	MC Warnings
	Pwr
	DeviceStatus
	Interlock Code

Test Points

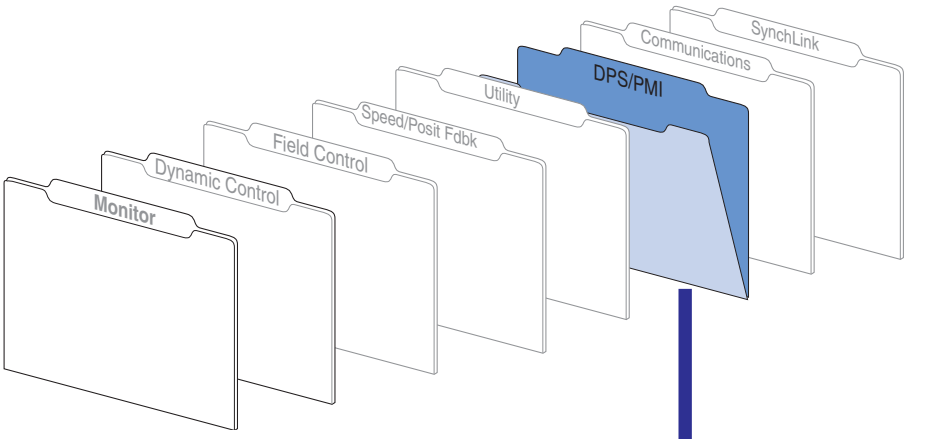
329	Fault TP Sel
330	Fault TP Data
1226	SL Comm TP Sel
1227	SL Comm TP Data

User Selections

396	User Data 1
397	User Data 2
398	User Data 3
399	User Data 4

Peak Detection

210	PeakDtct Ctrl In
211	Peak Ctrl Status
212	PeakDtct1 In Int
213	PkDtct1 In Real
214	PeakDtct1 Preset
215	PeakDetect1 Out
216	PeakDtct2 In Int
217	PkDtct2 In Real
218	PeakDtct2 Preset
227	PeakDetect2 Out



Comm Status

2000	DM Comm PortStat
2001	DM Good Msg Cnt
2002	DM CRC Error Cnt
2003	DM Frmt ErrorCnt
2004	PMIComm PortStat
2005	PMI Good Msg Cnt
2006	PMI CRC ErrorCnt
2007	PMIFrmt ErrorCnt
2008	DM Link Status
2009	DM Tx Msg Count
2010	DM Sync WarngCnt
2011	DM Bad Msg Cnt
2012	DM Sync Count
2013	PMI Gain Count
2014	DM Tx Time
2015	DM Tx Time Avail

Commands

2100	Drive Ctrl Word
2102	3Ph Test Angle
2103	3Ph Curr Ref
2104	Field Test Angle
2105	Field Curr Ref
2106	PMI D/A Output

Inputs & Outputs

2040	Rail Port 0 Ch 0
2041	Rail Port 0 Ch 1
2042	Rail Port 0 Ch 2
2043	Rail Port 0 Ch 3
2044	Rail Port 0 Flt
2045	RailPrt 0FltCnt
2046	Rail Port 1 Ch 0
2047	Rail Port 1 Ch 1
2048	Rail Port 1 Ch 2
2049	Rail Port 1 Ch 3
2050	Rail Port 1 Flt
2051	RailPrt 1FltCnt
2080	Meter Port1 Sel
2081	MeterP1 +10v Val
2082	MeterP1 -10v Val
2083	Meter Port2 Sel
2084	MeterP2 +10v Val
2085	MeterP2 -10v Val
2086	Meter Port3 Sel
2087	MeterP3 +10v Val
2088	MeterP3 -10v Val
2089	Meter Port4 Sel
2090	MeterP4 +10v Val
2091	MeterP4 -10v Val

Feedback

2122	MC Faults
2123	MC Warnings
2124	Pwr DeviceStatus
2125	Interlock Code
2126	AC Line Volt FB
2127	3Ph Feedback
2131	FML Feedback
2132	Field Amps Fdbk
2133	Field Volt Fdbk
2134	User Anlg Input
2135	Res Scan Posit
2136	Res Strobe Posit
2149	NV Faults

Regulator Config

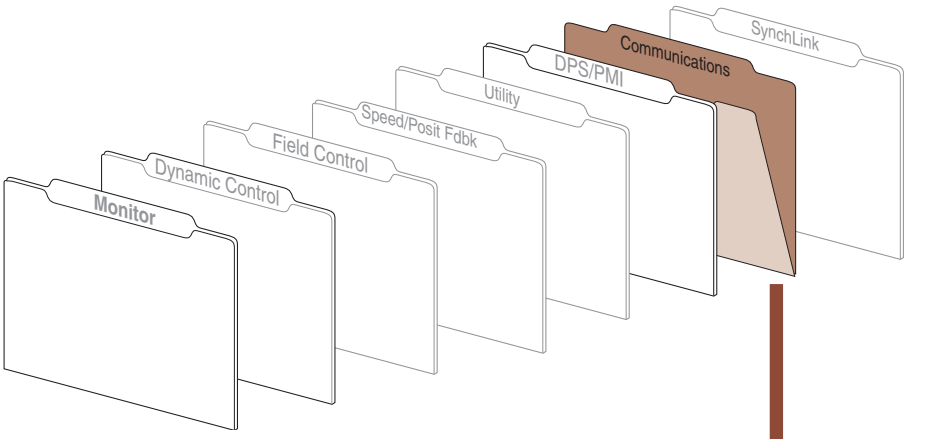
2150	CML Crossovr Frq
2151	3Ph Resistance
2152	3Ph TimeConstant
2154	FML Crossovr Frq
2155	Field Resistance
2156	Fld TimeConstant
2157	SCR Diag Gain
2158	SCR Decay Rate
2159	SCR Deadband
2160	SCR Trip Point
2161	Resolver Gain
2162	Resolver Balance

Motor Data

2180	Motor NP RPM
2181	Anlg Tach RPM
2182	3Ph Hot Fld Curr
2184	PMI Curr Lim
2185	Hot Field Curr
2186	Min Field Curr
2187	Field Loss Amps
2188	Field Off Delay

Drive Config

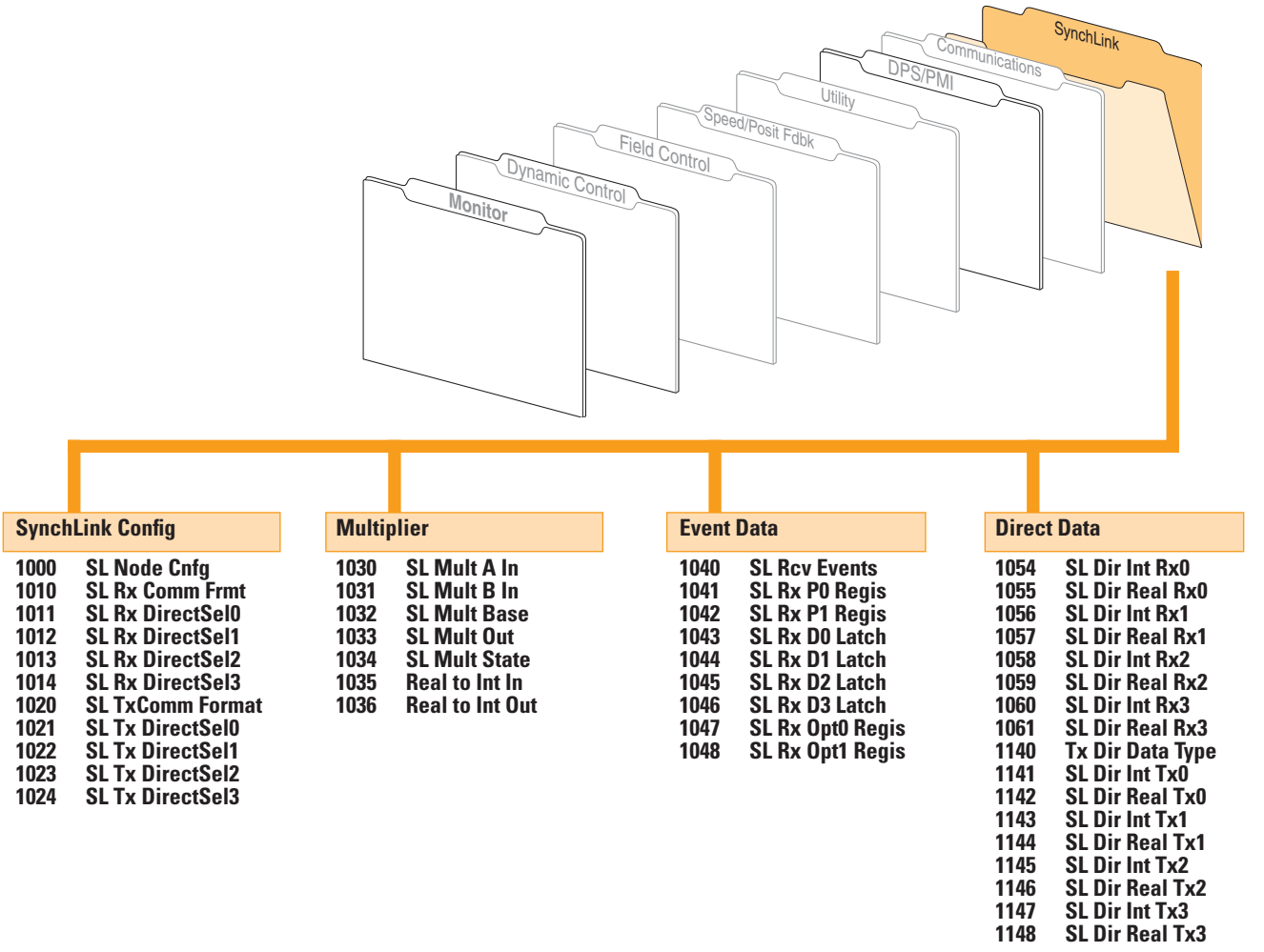
2200	PMI Drive Config
2201	PMI I/O Config
2202	AC
2203	LineVolt(RMS)
2204	Out Volt Rating
2205	Out Curr Rating
2206	Curr Xfmr Ratio
2207	Field AC In Volt
2208	Fld OutCurrRatng
2209	Anlg Tach Volts
2213	Ph Xfmr In Volt
2214	Pwr Config Code
	PMI OS Version

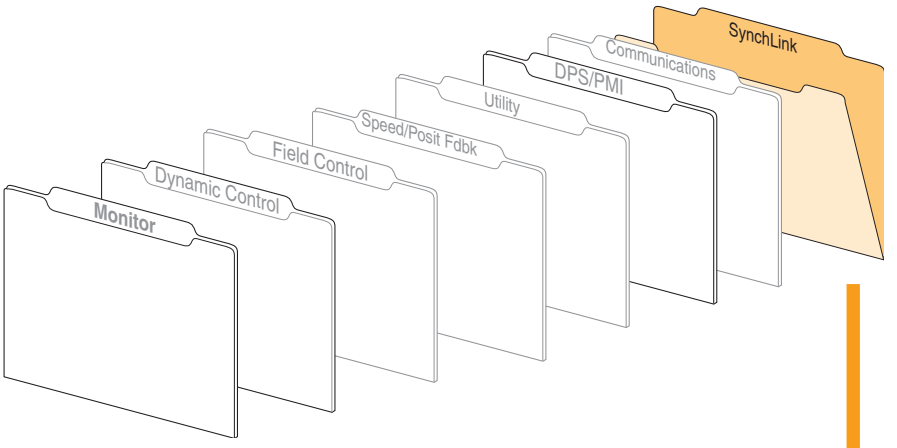


Commands	
664	Lgx Comm Format

Logix Inputs	
600	Integer In00
601	Real In00
602	Integer In01
603	Real In01
604	Integer In02
605	Real In02
606	Integer In03
607	Real In03
608	Integer In04
609	Real In04
610	Integer In05
611	Real In05
612	Integer In06
613	Real In06
614	Integer In07
615	Real In07
616	Integer In08
617	Real In08
618	Integer In09
619	Real In09
620	Integer In10
621	Real In10
622	Integer In11
623	Real In11
624	Integer In12
625	Real In12
626	Integer In13
627	Real In13
628	Integer In14
629	Real In14
630	Integer In15
631	Real In15

Logix Outputs	
632	Integer Out00
633	Real Out00
634	Integer Out01
635	Real Out01
636	Integer Out02
637	Real Out02
638	Integer Out03
639	Real Out03
640	Integer Out04
641	Real Out04
642	Integer Out05
643	Real Out05
644	Integer Out06
645	Real Out06
646	Integer Out07
647	Real Out07
648	Integer Out08
649	Real Out08
650	Integer Out09
651	Real Out09
652	Integer Out10
653	Real Out10
654	Integer Out11
655	Real Out11
656	Integer Out12
657	Real Out12
658	Integer Out13
659	Real Out13
660	Integer Out14
661	Real Out14
662	Integer Out15
663	Real Out15


SynchLink
Communications
DPS/PMI
Utility
Speed/Posit Fdbk
Field Control
Dynamic Control
Monitor
SynchLink Config
1000 SL Node Cnfg
1010 SL Rx Comm Frmt
1011 SL Rx DirectSel0
1012 SL Rx DirectSel1
1013 SL Rx DirectSel2
1014 SL Rx DirectSel3
1020 SL TxComm Format
1021 SL Tx DirectSel0
1022 SL Tx DirectSel1
1023 SL Tx DirectSel2
1024 SL Tx DirectSel3
Multiplier
1030 SL Mult A In
1031 SL Mult B In
1032 SL Mult Base
1033 SL Mult Out
1034 SL Mult State
1035 Real to Int In
1036 Real to Int Out
Event Data
1040 SL Rcv Events
1041 SL Rx P0 Regis
1042 SL Rx P1 Regis
1043 SL Rx D0 Latch
1044 SL Rx D1 Latch
1045 SL Rx D2 Latch
1046 SL Rx D3 Latch
1047 SL Rx Opt0 Regis
1048 SL Rx Opt1 Regis
Direct Data
1054 SL Dir Int Rx0
1055 SL Dir Real Rx0
1056 SL Dir Int Rx1
1057 SL Dir Real Rx1
1058 SL Dir Int Rx2
1059 SL Dir Real Rx2
1060 SL Dir Int Rx3
1061 SL Dir Real Rx3
1140 Tx Dir Data Type
1141 SL Dir Int Tx0
1142 SL Dir Real Tx0
1143 SL Dir Int Tx1
1144 SL Dir Real Tx1
1145 SL Dir Int Tx2
1146 SL Dir Real Tx2
1147 SL Dir Int Tx3
1148 SL Dir Real Tx3



Buffered Data In

1073	SL Buf Int Rx00
1074	SL Buf Real Rx00
1075	SL Buf Int Rx01
1076	SL Buf Real Rx01
1077	SL Buf Int Rx02
1078	SL Buf Real Rx02
1079	SL Buf Int Rx03
1080	SL Buf Real Rx03
1081	SL Buf Int Rx04
1082	SL Buf Real Rx04
1083	SL Buf Int Rx05
1084	SL Buf Real Rx05
1085	SL Buf Int Rx06
1086	SL Buf Real Rx06
1087	SL Buf Int Rx07
1088	SL Buf Real Rx07
1089	SL Buf Int Rx08
1090	SL Buf Real Rx08
1091	SL Buf Int Rx09
1092	SL Buf Real Rx09
1093	SL Buf Int Rx10
1094	SL Buf Real Rx10
1095	SL Buf Int Rx11
1096	SL Buf Real Rx11
1097	SL Buf Int Rx12
1098	SL Buf Real Rx12
1099	SL Buf Int Rx13
1100	SL Buf Real Rx13
1101	SL Buf Int Rx14
1102	SL Buf Real Rx14
1103	SL Buf Int Rx15
1104	SL Buf Real Rx15
1105	SL Buf Int Rx16
1106	SL Buf Real Rx16
1107	SL Buf Int Rx17
1108	SL Buf Real Rx17
1109	SL Buf Int Rx18
1110	SL Buf Real Rx18
1111	SL Buf Int Rx19
1112	SL Buf Real Rx19
1113	SL Buf Int Rx20
1114	SL Buf Real Rx20
1115	SL Buf Int Rx21
1116	SL Buf Real Rx21
1117	SL Buf Int Rx22
1118	SL Buf Real Rx22
1119	SL Buf Int Rx23
1120	SL Buf Real Rx23
1121	SL Buf Int Rx24
1122	SL Buf Real Rx24
1123	SL Buf Int Rx25
1124	SL Buf Real Rx25
1125	SL Buf Int Rx26
1126	SL Buf Real Rx26
1127	SL Buf Int Rx27
1128	SL Buf Real Rx27
1129	SL Buf Int Rx28
1130	SL Buf Real Rx28
1131	SL Buf Int Rx29

Buffered DataOut

1160	Tx Buf Data Type
1161	SL Buf Int Tx00
1162	SL Buf Real Tx00
1163	SL Buf Int Tx01
1164	SL Buf Real Tx01
1165	SL Buf Int Tx02
1166	SL Buf Real Tx02
1167	SL Buf Int Tx03
1168	SL Buf Real Tx03
1169	SL Buf Int Tx04
1170	SL Buf Real Tx04
1171	SL Buf Int Tx05
1172	SL Buf Real Tx05
1173	SL Buf Int Tx06
1174	SL Buf Real Tx06
1175	SL Buf Int Tx07
1176	SL Buf Real Tx07
1177	SL Buf Int Tx08
1178	SL Buf Real Tx08
1179	SL Buf Int Tx09
1180	SL Buf Real Tx09
1181	SL Buf Int Tx10
1182	SL Buf Real Tx10
1183	SL Buf Int Tx11
1184	SL Buf Real Tx11
1185	SL Buf Int Tx12
1186	SL Buf Real Tx12
1187	SL Buf Int Tx13
1188	SL Buf Real Tx13
1189	SL Buf Int Tx14
1190	SL Buf Real Tx14
1191	SL Buf Int Tx15
1192	SL Buf Real Tx15
1193	SL Buf Int Tx16
1194	SL Buf Real Tx16
1195	SL Buf Int Tx17
1196	SL Buf Real Tx17
1197	SL Buf Int Tx18
1198	SL Buf Real Tx18
1199	SL Buf Int Tx19
1200	SL Buf Real Tx19
1201	SL Buf Int Tx20
1202	SL Buf Real Tx20
1203	SL Buf Int Tx21
1204	SL Buf Real Tx21
1205	SL Buf Int Tx22
1206	SL Buf Real Tx22
1207	SL Buf Int Tx23
1208	SL Buf Real Tx23
1209	SL Buf Int Tx24
1210	SL Buf Real Tx24
1211	SL Buf Int Tx25
1212	SL Buf Real Tx25
1213	SL Buf Int Tx26
1214	SL Buf Real Tx26
1215	SL Buf Int Tx27
1216	SL Buf Real Tx27
1217	SL Buf Int Tx28
1218	SL Buf Real Tx28
1219	SL Buf Int Tx29
1220	SL Buf Real Tx29

Parameter Data In Linear List Format

No.	Name Description	Values		
111	**Curr Ref 1** Supplies an external current reference to the drive. This parameter is divided by the value inparameter 112 [Curr Ref1 Div]. A value of 1.0 represents rated current of the drive.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Field Control Current	
112	**Curr Ref1 Div** The divisor for parameter 111 [Curr Ref 1].	Default: Min: Max: Type: File: Group:	1 -2200000000 2200000000 Non-Linkable, Read-Write, Floating Point Field Control Current	
113	**Curr Ref 2** Supplies an external current reference to the drive. This parameter is multiplied by the value in [Curr Ref2 Mult]. A value of 1.0 represents rated current of the drive.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Field Control Current	
114	**Curr Ref2 Mult** The multiplier for parameter 113 [Curr Ref 2].	Default: Min: Max: Type: File: Group:	1 -2200000000 2200000000 Linkable, Read-Write, Floating Point Field Control Current	
115	**Current Trim** The amount added to the Current Reference before the Speed - Torque Mode Selector. A value of 1.0 represents rated current of the drive.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Linkable, Read-Write, Floating Point Field Control Current	
150	**Logic State Mach** Indicates the logical state of the drive. Value 0 - Stopped indicates zero speed has been detected and the speed and torque regulators are disabled.	Default: Options: File: Group:	0 Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Monitor Control Status	Zero Stopped Starting Running Stopping Inertia Test MC Diag Reserved

No.	Name Description	Values		
151	**Logic Command** The controller-drive interface (as defined by the Controller Commmunication Format), set bits to enable and disable various functions and algorithms. Bits that are changed here are reflected in parameter 152 [Applied LogicCmd]. Note: Bits 4 through 9 in Logic Command are NOT recalled from Control EEprom. They will be cleared upon drive powerup or following an EEprom recall operation. Refer to Peak Detector/Control Logic on page C-4, the block diagram shows the connection to the LogicCommand word, of the Controller Communication Format, via parameter 600 [Integer In00].	Default:	0000 0000 0000 0000	
		Options	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bti 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15	Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved
		File: Group:	Dynamic Control Configuration	

No.	Name Description	Values		
152	**Applied LogicCmd** Displays Logic Command that is applied to the Regulators and Control Algorithms within the drive. Logic Commands come from the 32-bit Logic Command found in a connection with the Logix Controller. Refer to Peak Detector/Control Logic on page C-4, the block diagram shows the connection to the LogicCommand word, of the Controller Communication Format, via parameter 600 [Integer In00].	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bti 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15 Bit 16 Bit 17 Bti 18 Bit 19 Bit 20 Bit 21 Bit 22 Bit 23 Bit 24 Bit 25 Bit 26 Bit 27 Bit 28 Bit 29 Bit 30 Bit 31	Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Start Reserved Clear Fault Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Field En Reserved
		File: Group:	Dynamic Control Configuration	

No.	Name Description	Values		
155	**Logic Status** Displays the status - condition of the drive. If there is a Controller to Drive Module error or inhibit, the data in the LogicStatus word of the Controller Communication Format will be set to 0x0000ffff. Bit 15 [Reserved] was used in AutoGen to detect loss of connection. This parameter is linked to the LogicStatus word of the Controller Communication Format via parameter 632 [Integer Out00].	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options	Bit 0	Enabled
			Bit 1	Reserved
			Bit 2	Reserved
			Bit 3	Reserved
			Bit 4	Reserved
			Bit 5	Reserved
			Bit 6	Reserved
			Bit 7	Faulted
			Bit 8	Alarm
			Bit 9	Reserved
			Bti 10	Run Ready
			Bit 11	Reserved
			Bit 12	Reserved
			Bit 13	Reserved
			Bit 14	Reserved
			Bit 15	Reserved
			Bit 16	Reserved
			Bit 17	Reserved
			Bti 18	MC En Ack
			Bit 19	Reserved
			Bit 20	Reserved
			Bit 21	Reserved
			Bit 22	Reserved
			Bit 23	Reserved
			Bit 24	Reserved
			Bit 25	Reserved
			Bit 26	Command Run
			Bit 27	Reserved
			Bit 28	Reserved
			Bit 29	Reserved
			Bit 30	FieldCurr On
			Bit 31	Reserved
		File: Group:	Monitor Control Status	

No.	Name Description	Values		
156	**Run Inhibit Stat** Indicates which condition is preventing the drive from starting or running.	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options	Bit 0	FAULTED
			Bit 1	Reserved
			Bit 2	Reserved
			Bit 3	Reserved
			Bit 4	Reserved
			Bit 5	Reserved
			Bit 6	Reserved
			Bit 7	Reserved
			Bit 8	Reserved
			Bit 9	Reserved
			Bti 10	Reserved
			Bit 11	Reserved
			Bit 12	Reserved
			Bit 13	Reserved
			Bit 14	Reserved
			Bit 15	Reserved
			Bit 16	Start
			Bit 17	Reserved
			Bti 18	Reserved
			Bit 19	Reserved
			Bit 20	Reserved
			Bit 21	Reserved
			Bit 22	Reserved
			Bit 23	Reserved
			Bit 24	Reserved
			Bit 25	Reserved
			Bit 26	Reserved
			Bit 27	Reserved
			Bit 28	No PMI Sync
			Bit 29	No Run Perm
			Bit 30	PMI Drv Flt
			Bit 31	PMIDrvIntrlk
		File: Group:	Monitor Control Status	

No.	Name Description	Values		
157	**Logic Ctrl State** Indicates which logic control functions are enabled.	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options	Bit 0	Reserved
			Bit 1	Reserved
			Bit 2	Reserved
			Bit 3	Reserved
			Bit 4	Reserved
			Bit 5	Reserved
			Bit 6	Reserved
			Bit 7	Reserved
			Bit 8	Reserved
			Bit 9	Reserved
			Bti 10	Reserved
			Bit 11	Reserved
			Bit 12	Reserved
			Bit 13	Reserved
			Bit 14	Reserved
			Bit 15	Reserved
			Bit 16	Reserved
			Bit 17	Reserved
			Bti 18	Reserved
			Bit 19	Reserved
			Bit 20	Reserved
			Bit 21	Reserved
			Bit 22	Reserved
			Bit 23	Reserved
			Bit 24	Reserved
			Bit 25	Reserved
			Bit 26	Reserved
			Bit 27	Reserved
			Bit 28	Lgx Run Mode
			Bit 29	Lgx I/O Cnx
			Bit 30	Reserved
			Bit 31	Reserved
		File: Group	Monitor Control Status	

No.	Name Description	Values		
166	**Motor Ctrl Cmmd** Displays the command bits to the Motor Control Processor from the Velocity Processor	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options	Bit 0	Reserved
			Bit 1	Reserved
			Bit 2	Reserved
			Bit 3	Reserved
			Bit 4	Reserved
			Bit 5	Reserved
			Bit 6	Reserved
			Bit 7	Reserved
			Bit 8	Reserved
			Bit 9	Reserved
			Bti 10	Reserved
			Bit 11	Reserved
			Bit 12	Reserved
			Bit 13	Reserved
			Bit 14	Reserved
			Bit 15	Reserved
			Bit 16	Reserved
			Bit 17	Reserved
			Bti 18	Reserved
			Bit 19	Clr Drv Wrn
			Bit 20	Dsbl BrstFrg
			Bit 21	Dsbl Fld Wk
			Bit 22	Dsbl ShrtSCR
			Bit 23	Dsbl Opn SCR
			Bit 24	3Ph Id Tst
			Bit 25	Fld Id Tst
			Bit 26	3Ph Alph Tst
			Bit 27	Fld Alph Tst
			Bit 28	3PhRAlph Tst
			Bit 29	FldRAlph Tst
			Bit 30	Reserved
			Bit 31	Reserved
		File: Group:	Monitor Control Status	

No.	Name Description	Values		
167	**Motor Ctrl Ackn** Displays the Motor Control Processor's acknowledgment to the Velocity Processor for the Motor Control Command bits.	Default:	0000 000 0000 0000	
		Options	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bti 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15	3Ph Enable 3Ph ID Done 3Ph AlphaMin 3Ph AlphaMax Field Enable Fld ID Done Fld AlphaLim Reserved Fault Detect Warng Detect AC Phase ABC Phase Ready Reserved Rail I/O OK PMI Syncd PMI OSLoaded
		File: Group:	Monitor,Utility Control Status, Diagnostics	
168	**Drive I/O Ctrl** Set bits to control PMI functions.	Default:	0000 0000 0000 0000	
		Options	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bti 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15	Reserved M-Cont Out Ext Flt LED Reserved Aux Output Reserved Enbl Res Bal Reserved Ext Strobe Ext StrobeFE Dis BrknWire Reserved Reserved Reserved Reserved DM Fiber Tst
		File: Group:	Dynamic Control Configuration	

No.	Name Description	Values		
169	**Drive I/O Status** Indicates status of PMI functions.	Default:	0000 0000 0000 0000	
		Options	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bti 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15	Run Perm M-Cont Fdbk Aux In 2 Aux In 3 Aux In 4 Aux In 5 Res Gain OK Res Bal OK StrobeDetect Strobe Level Reserved Reserved Reserved Reserved Reserved Reserved
		File: Group:	Utility Diagnostics	
210	**PeakDtct Ctrl In** Sets configuration of the two peak/level detectors. • Set mode is a level detector which causes the output to match the preset when the input exceeds the preset. • Hold mode is a level detector which causes the output to match the input, the moment it detects the input exceeding the preset. • Regular peak detection (when set and hold are off) causes the output to match the input at the moment a peak is detected. • Sel determines if the peak/level detector is positive of negative. If the bit is set the detector detects positive peaks or levels above the preset. If the bit is not set the detector detects negative "valleys" or levels below the preset.	Default:	0000 0000 0000 0000	
		Options	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7	Peak 1 Set Peak 1 Hold Peak 1 Sel Reserved Peak 2 Set Peak 2 Hold Peak 2 Sel Reserved
		File: Group:	Utility Peak Detection	
211	**Peak Ctrl Status** Status of peak/level detectors. A peak detector sets its bit when it detects a peak or when its input exceeds its preset - depending on mode.	Default:	0000 0000 0000 0000	
		Options	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7	Peak 1 Chng Peak 2 Chng Reserved Reserved Reserved Reserved Reserved Reserved
		File: Group:	Utility Peak Detection	
212	**PeakDtct1 In Int** Integer input to the first peak/level detector.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer Utility Peak Detection	

No.	Name Description	Values		
213	**PkDtct1 In Real** Floating point input to the first peak/level detector	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Utility Peak Detection	
214	**PeakDtct1 Preset** With the first detector (in set or hold modes) compares this value to its input for level detection. When the detector trips (in set mode) it transfers the value of this parameter to its output.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Utility Peak Detection	
215	**PeakDetect1 Out** Output from the first peak/level detector.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point Utility Peak Detection	
216	**PeakDtct2 In Int** Integer input to second peak/level detector.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer Utility Peak Detection	
217	**PkDtct2 In Real** Floating point input to second peak/level detector	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Utility Peak Detection	
218	**PeakDtct2 Preset** With the second detector (in set or hold modes) compares this value to its input for level detection. When the detector trips (in set mode) it transfers the value of this parameter to its output.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Utility Peak Detection	
222	**Motor Fdbk Sel** Enter or write a value to select the primary motor speed feedback device.	Default:	Val 0	Resolver
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5	Resolver Analog Tach Reserved Reserved Reserved Reserved
		File: Group:	Speed/Posit Fdbk Feedback Config	

No.	Name Description	Values	
227	**PeakDetect2 Out** Output from the second peak/level detector.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point Utility Peak Detection
230	**Resolver SpdFdbk** Displays speed feedback from the resolver. Select resolver by entering a value of 0 in of parameter 222 [Motor Fdbk Sel]. Configure the resolver with parameter 2201 [PMI I/O Confg].	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read-Only, Floating Point Speed/Posit Fdbk Resolver
231	**Resolver PositFB** Indicates accumulated position feedback generated by the resolver. This parameter supplies position regulator feedback if postion control is enabled.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Non-Linkable, Read-Only, 16-Bit Integer Speed/Posit Fdbk Resolver
240	**Anlg Tach Spd FB** Displays speed feedback from an analog tach. Select analog tach by entering a value of 2 in of parameter 222 [Motor Fdbk Sel].	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable Read-Only, Floating Point Speed/Posit Fdbk Analog Tach
241	**Anlg Tach Posit** Indicates accumulated position feedback generated by the analog tach. This parameter supplies position regulator feedback if postion control is enabled.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer Speed/Posit Fdbk Analog Tach
300	**Motor Spd Fdbk** Displays measured motor speed information from the selected feedback device. A value of 1.0 represents base speed of the motor.	Units: Default: Min: Max: Type: File: Group:	RPM 0 -14000 14000 Non-Linkable, Read-Only, Floating Point Monitor, Speed/Posit Fdbk Metering, Feedback Config
305	**3Ph FieldCurrRef** Displays the value of current reference that is present at the output of the current rate limiter. 100% is equal to 1 per unit (pu) rated drve current.	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -8 8 Non-Linkable, Read-Only, Floating Point Field Control Current

No.	Name Description	Values	
307	**Output Voltage** Displays the actual line-to-line fundamental RMS value of output voltage. This data is averaged and updated every 50 milliseconds.	Units: Default: Min: Max: Type: File: Group:	Volt 0 -1350 1350 Non-Linkable, Read-Only, Floating Point Monitor Metering
308	**Output Current** Displays the actual RMS value of the output current as determined from the current sensors.	Units: Default: Min: Max: Type: File: Group:	Amps 0 -6000 6000 Non-Linkable, Read-Only, Floating Point Monitor Metering
314	**VPL Firmware Rev** Displays the major and minor revision levels of the drive's Velocity Position Loop (VPL) software.	Default: Min: Max: Type: File: Group:	x.xxx 0.001 65.255 Non-Linkable, Read-Only, 16-Bit Integer Monitor Drive Data

No.	Name Description	Values		
316	**SynchLink Status** Indicates status of SynchLink functions. • Bit 0 [FB Opt Prsnt] indicates the presence of an optional feedback daughter card. • Bit 1 [Encdr0 Prsnt] indicates the presence of encoder 0. • Bit 2 [Encdr1 Prsnt] indicates the presence of encoder 1. • Bit 3 [In Sync] indicates SynchLink communications is synchronized. • Bit 4 [Tx Active] indicates TX frames are being transmitted downstream from this node. • Bit 5 [Rx Active] inidates RX frames are being received from nodes upstream. • Bit 15 [Rx Data Enbl] indicates received data is being updated.	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bti 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15 Bit 16 Bit 17 Bit 18 Bit 19 Bit 20 Bit 21 Bit 22 Bit 23 Bit 24 Bit 25 Bit 26 Bit 27 Bit 28 Bit 29 Bit 30 Bit 31	Reserved Reserved Reserved In Sync Tx Active Rx Active Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Rx Data Enbl Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved
		File: Group:	Utility Diagnostics	
317	**SL System Time** Displays the SynchLink system time counter.	Units: Default: Min: Max: Type: File: Group:	uSec 0 0 1048575 Non-Linkable, Read-Only, 32-Bit Integer Monitor Control Status	

No.	Name Description	Values		
320	**Exception Event1** Indicates the presence of certain drive anomalies. Configure the drive's response to these events by entering values in the parameters of the fault/alarm configuration group of the utility file.	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options	Bit 0	Reserved
			Bit 1	Reserved
			Bit 2	Reserved
			Bit 3	Reserved
			Bit 4	Reserved
			Bit 5	Reserved
			Bit 6	Reserved
			Bit 7	SLink HW
			Bit 8	SLink Comm
			Bit 9	Reserved
			Bti 10	Reserved
			Bit 11	Reserved
			Bit 12	Reserved
			Bit 13	Reserved
			Bit 14	Reserved
			Bit 15	Reserved
			Bit 16	Reserved
			Bit 17	Reserved
			Bit 18	DSP Mem Err
			Bit 19	DSP Error
			Bit 20	Reserved
			Bit 21	Reserved
			Bit 22	Reserved
			Bit 23	Reserved
			Bit 24	Reserved
			Bit 25	Reserved
			Bit 26	Reserved
			Bit 27	Reserved
			Bit 28	Reserved
			Bit 29	Reserved
			Bit 30	Reserved
			Bit 31	Reserved
		File: Group:	Utility Diagnostics	

No.	Name Description	Values		
321	**Exception Event2** Indicates the presence of certain drive anomalies. Configure the drive's response to these events by entering values in the parameters of the fault/alarm configuration group of the utility file.	Default:	0000 0000 0000 00000000 0000 0000 0000	
		Options	Bit 0	Reserved
			Bit 1	Reserved
			Bit 2	Reserved
			Bit 3	Reserved
			Bit 4	Reserved
			Bit 5	Reserved
			Bit 6	Reserved
			Bit 7	SLink Mult
			Bit 8	Reserved
			Bit 9	Reserved
			Bti 10	Reserved
			Bit 11	Reserved
			Bit 12	Reserved
			Bit 13	Reserved
			Bit 14	Reserved
			Bit 15	Reserved
			Bit 16	Reserved
			Bit 17	Reserved
			Bit 18	Reserved
			Bit 19	Reserved
			Bit 20	Reserved
			Bit 21	Reserved
			Bit 22	Reserved
			Bit 23	Reserved
			Bit 24	Reserved
			Bit 25	Reserved
			Bit 26	Drv Fault
			Bit 27	Drv Warning
			Bit 28	Lgx OutOfRun
			Bit 29	Lgx Timeout
			Bit 30	Lgx Closed
			Bit 31	Lgx LinkChng
		File: Group:	Utility Diagnostics	

No.	Name Description	Values		
323	**Fault Status 1** Indicates the occurance of the exception events that have been configured as fault conditions. These are the same events shown in parameter 320 [Exception Event1].	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options	Bit 0	Reserved
			Bit 1	Reserved
			Bit 2	Reserved
			Bit 3	Reserved
			Bit 4	Reserved
			Bit 5	Reserved
			Bit 6	Reserved
			Bit 7	SLink HW
			Bit 8	SLink Comm
			Bit 9	Reserved
			Bti 10	Reserved
			Bit 11	Reserved
			Bit 12	Reserved
			Bit 13	Reserved
			Bit 14	Reserved
			Bit 15	Reserved
			Bit 16	Reserved
			Bit 17	Reserved
			Bit 18	DSP Mem Err
			Bit 19	DSP Error
			Bit 20	Reserved
			Bit 21	Reserved
			Bit 22	Reserved
			Bit 23	Reserved
			Bit 24	Reserved
			Bit 25	Reserved
			Bit 26	Reserved
			Bit 27	Reserved
			Bit 28	Reserved
			Bit 29	Reserved
			Bit 30	Reserved
			Bit 31	Reserved
		File: Group:	Utility Diagnostics	

No.	Name Description	Values		
324	**Fault Status 2** Indicates the occurance of the exception events that have been configured as fault conditions. These are the same events shown in parameter 321 [Exception Event2].	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options	Bit 0	Reserved
			Bit 1	Reserved
			Bit 2	Reserved
			Bit 3	Reserved
			Bit 4	Reserved
			Bit 5	Reserved
			Bit 6	Reserved
			Bit 7	SLink Mult
			Bit 8	Reserved
			Bit 9	Reserved
			Bti 10	Reserved
			Bit 11	Reserved
			Bit 12	Reserved
			Bit 13	Reserved
			Bit 14	Reserved
			Bit 15	Reserved
			Bit 16	Reserved
			Bit 17	Reserved
			Bit 18	Reserved
			Bit 19	Reserved
			Bit 20	Reserved
			Bit 21	Reserved
			Bit 22	Reserved
			Bit 23	Reserved
			Bit 24	Reserved
			Bit 25	Reserved
			Bit 26	Drv Fault
			Bit 27	Drv Warning
			Bit 28	Lgx OutOfRun
			Bit 29	Lgx Timeout
			Bit 30	Lgx Closed
			Bit 31	Lgx LinkChng
		File: Group:	Utility Diagnostics	

No.	Name Description	Values		
326	**Alarm Status 1** Indicates the occurance of the exception events that have been configured as alarm conditions. These are the same events shown in parameter 320 [Exception Event1].	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options	Bit 0	Reserved
			Bit 1	Reserved
			Bit 2	Reserved
			Bit 3	Reserved
			Bit 4	Reserved
			Bit 5	Reserved
			Bit 6	Reserved
			Bit 7	SLink HW
			Bit 8	SLink Comm
			Bit 9	Reserved
			Bti 10	Reserved
			Bit 11	Reserved
			Bit 12	Reserved
			Bit 13	Reserved
			Bit 14	Reserved
			Bit 15	Reserved
			Bit 16	Reserved
			Bit 17	Reserved
			Bit 18	DSP Mem Err
			Bit 19	DSP Error
			Bit 20	Reserved
			Bit 21	Reserved
			Bit 22	Reserved
			Bit 23	Reserved
			Bit 24	Reserved
			Bit 25	Reserved
			Bit 26	Reserved
			Bit 27	Reserved
			Bit 28	Reserved
			Bit 29	Reserved
			Bit 30	Reserved
			Bit 31	Reserved
		File: Group:	Utility Diagnostics	

No.	Name Description	Values		
327	**Alarm Status 2** InIndicates the occurance of the exception events that have been configured as alarm conditions. These are the same events shown in parameter 321 [Exception Event2].	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bti 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15 Bit 16 Bit 17 Bit 18 Bit 19 Bit 20 Bit 21 Bit 22 Bit 23 Bit 24 Bit 25 Bit 26 Bit 27 Bit 28 Bit 29 Bit 30 Bit 31	Reserved Reserved Reserved Reserved Reserved Reserved Reserved SLink Mult Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Drv Fault Drv Warning Lgx OutOfRun Lgx Timeout Lgx Closed Lgx LinkChng
		File: Group:	Utility Diagnostics	
329	**Fault TP Sel** Enter or write a value to select Fault data data displayed in parameter 330 [Fault TP Data].	Default:	Val 0	Zero
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13	Zero Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved VPL FltReset Reserved Mtr Ovld Cur Mtr Ovld Int
		File: Group:	Utility Test Points	

No.	Name Description	Values		
330	**Fault TP Data** Displays the data selected by parameter 329 [Fault TP Sel].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point Utility Test Points	
369	**SL CommLoss Cnfg** Enter a value to determine what is done with the data received from SynchLink when a communication loss occurs. • Value 0 - Ignore configures the drive to continue running, as normal, when this event occurs • Value 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs • Value 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response this event. • Value 3 - Flt RampStop configures the drive to perform a ramp stop and set the appropriate fault bit, in response this event. • Value 4 - FltCurLimStp configures the drive to perform a current-limit stop and set the appropriate fault bit, in response this event.	Default: Options: File: Group:	Val 2 Val 0 Val 1 Val 2 Utility Fault/Alm Config	FltCoastStop Ignore Alarm FltCoastStop
	ATTENTION  **ATTENTION:** Risk of injury or equipment damage exists. Parameter 369 [SL CommLoss Cnfg] lets you determine the action of the drive if communications are disrupted. By default this parameter causes the drive fault and coast to a stop. You can set this parameter so that the drive continues to run. Precautions should be taken to ensure that the setting of this parameter does not create hazards of injury or equipment damage.			
370	**SL CommLoss Data** Enter a value to configures the drive's response to SynchLink communication loss. Refer to parameter 1229 [SL Error Status] for possible causes of communication loss. • Value 0 - Zero Data Resets data to zero • Value 1 - Last State Holds data in its last state	Default: Options: File: Group:	Val 1 Val 0 Val 1 Utility Fault/Alm Config	Last State Zero Data Last State
	ATTENTION  **ATTENTION:** Risk of injury or equipment damage exists. Parameter 370 [SL CommLoss Data] lets you determine the action of the drive if communications are disrupted. By default this parameter causes the drive module to hold the data in its last state. You can set this parameter so that the drive resets the data to zero. Precautions should be taken to ensure that the setting of this parameter does not create hazards of injury or equipment damage.			

No.	Name Description	Values		
381	**PMI Warning Cnfg** Enter a value to configure the drive's response to a "PMI Warning" exception event (events enumerated in parameter 2123 [MC Warnings]. • Value 0 - Ignore configures the drive to continue running, as normal, when this event occurs • Value 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs • Value 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response this event.	Default: Options: File: Group:	Val 1 Val 0 Val 1 Val 2 Utility Fault/Alm Config	Alarm Ignore Alarm FltCoastStop
382	**Lgx OutOfRunCnfg** Enter a value to configure the drive's response to the DriveLogix processor being in Non-Run mode. Non-Run modes include Program, Remote-Program and Faulted. • Value 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response this event.	Default: Options: File: Group:	Val 2 Val 2 Utility Fault/Alm Config	FltCoastStop FltCoastStop
383	**Lgx Timeout Cnfg** Enter a value to configure the Drive Module's response to a Controller to Drive Module connection timeout, as detected by the Drive Module. • Value 0 - Ignore configures the drive to continue running, as normal, when this event occurs • Value 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs • Value 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response this event.	Default: Options: File: Group:	Val 2 Val 0 Val 1 Val 2 Utility Fault/Alm Config	FltCoastStop Ignore Alarm FltCoastStop

ATTENTION

Risk of injury or equipment damage exists. Parameter 383 [Lgx Timeout Cnfg] lets you determine the action of the drive if communications are disrupted. By default this parameter causes the drive to fault and coast to a stop. You can set this parameter so that the drive continues to run. Precautions should be taken to ensure that the setting of this parameter does not create a hazard of injury or equipment damage.

No.	Name Description	Values		
384	**Lgx Closed Cnfg** Enter a value to configure the Drive Module's response to the controller closing the Controller to Drive Module connection. • Value 0 - Ignore configures the drive to continue running, as normal, when this event occurs • Value 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs • Value 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response this event.	Default:	Val 2	FltCoastStop
		Options:	Val 0 Val 1 Val 2	Ignore Alarm FltCoastStop
		File: Group:	Utility Fault/Alm Config	

ATTENTION

Risk of injury or equipment damage exists. Parameter 384 [Lgx Closed Cnfg] lets you determine the action of the drive if communications are disrupted. By default this parameter causes the drive to fault and coast to a stop. You can set this parameter so that the drive continues to run. Precautions should be taken to ensure that the setting of this parameter does not create a hazard of injury or equipment damage.

385	**Lgx LinkChngCnfg** Enter a value to configure the Drive Module's response to Controller to Drive Module default links being removed. A default link is a link automatically set up when a communication format is selected for the Controller to Drive Module connection. • Value 0 - Ignore configures the drive to continue running, as normal, when this event occurs • Value 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs • Value 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response this event.	Default:	Val 2	FltCoastStop
		Options:	Val 0 Val 1 Val 2	Ignore Alarm FltCoastStop
		File: Group:	Utility Fault/Alm Config	

ATTENTION

Risk of injury or equipment damage exists. Parameter 385 [Lgx LinkChngCnfg] lets you determine the action of the drive if communications are disrupted. By default this parameter causes the drive to fault and coast to a stop. You can set this parameter so that the drive continues to run. Precautions should be taken to ensure that the setting of this parameter does not create a hazard of injury or equipment damage.

No.	Name Description	Values		
386	**Lgx CommLossData** Enter a value to configure what Drive Module does with the data received from the controller when the connection is closed or times out. • Value 0 - Zero Data Resets data to zero • Value 1 - Last State Holds data in its last state	Default: Options: File: Group:	Val 1 Val 0 Val 1 Utility Fault/Alm Config	Last State Zero Data Last State
387	**SL MultErr Cnfg** Enter a value to configure the Drive Module's response to SynchLink Multiplier error. Refer to parameter 1034 [SL Mult State] for possible causes for multiplier errors. • Value 0 - Ignore configures the drive to continue running, as normal, when this event occurs • Value 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs • Value 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response this event	Default: Options: File: Group:	Val 2 Val 0 Val 1 Val 2 Utility Fault/Alm Config	FltCoastStop Ignore Alarm FltCoastStop
396	**User Data 1** General purpose parameter available for storage of 32 bit integer data by the operator. This value will be retained through a power cycle.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Write, 32-Bit Integer Utility User Selections	
397	**User Data 2** General purpose parameter available for storage of 32 bit integer data by the operator. This value will be retained through a power cycle.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Write, 32-Bit Integer Utility User Selections	
398	**User Data 3** General purpose parameter available for storage of 32 bit enumerated data by the operator. This value will be retained through a power cycle.	Default: Min: Max: Type: File: Group:	0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 1111 1111 1111 1111 1111 1111 1111 1111 Non-Linkable, Read-Write, 32-Bit Integer Utility User Selections	

ATTENTION

ATTENTION: Risk of injury or equipment damage exists. Parameter 386 [Lgx CommLossData] lets you determine what the drive module does with received data if communications are disrupted. By default this parameter causes the drive module hold the data in its last state. You can set this parameter so that the drive module resets the data to zero. Precautions should be taken to ensure that the setting of this parameter does not create a hazard of injury or equipment damage.

No.	Name Description	Values	
399	**User Data 4** General purpose parameter available for storage of floating point data by the operator. This value will be retained through a power cycle.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Write, Floating Point Utility User Selections
600	**Integer In00** Displays input word 00 of the controller communication format in integer format. Paired with parameter 601 [Real In00], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer Communication Logix Inputs
601	**Real In00** Displays input word 00 of the controller communication format in floating point format. Paired with parameter 600 [Integer In00], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point Communication Logix Inputs
602	**Integer In01** Displays input word 01 of the controller communication format in integer format. Paired with parameter 603 [Real In01], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer Communication Logix Inputs
603	**Real In01** Displays input word 01 of the controller communication format in floating point format. Paired with parameter 602 [Integer In01], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point Communication Logix Inputs
604	**Integer In02** Displays input word 02 of the controller communication format in integer format. Paired with parameter 605 [Real In02], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer Communication Logix Inputs
605	**Real In02** Displays input word 02 of the controller communication format in floating point format. Paired with parameter 604 [Integer In02], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point Communication Logix Inputs
606	**Integer In03** Displays input word 03 of the controller communication format in integer format. Paired with parameter 607 [Real In03], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer Communication Logix Inputs

No.	Name Description	Values	
607	**Real In03** Displays input word 03 of the controller communication format in floating point format. Paired with parameter 606 [Integer In03], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point Communication Logix Inputs
608	**Integer In04** Displays input word 04 of the controller communication format in integer format. Paired with parameter 609 [Real In04], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer Communication Logix Inputs
609	**Real In04** Displays input word 04 of the controller communication format in floating point format. Paired with parameter 608 [Integer In04], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point Communication Logix Inputs
610	**Integer In05** Displays input word 05 of the controller communication format in integer format. Paired with parameter 611 [Real In05], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer Communication Logix Inputs
611	**Real In05** Displays input word 05 of the controller communication format in floating point format. Paired with parameter 610 [Integer In05], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point Communication Logix Inputs
612	**Integer In06** Displays input word 06 of the controller communication format in integer format. Paired with parameter 613 [Real In06], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer Communication Logix Inputs
613	**Real In06** Displays input word 06 of the controller communication format in floating point format. Paired with parameter 612 [Integer In06], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point Communication Logix Inputs
614	**Integer In07** Displays input word 07 of the controller communication format in integer format. Paired with parameter 615 [Real In07], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer Communication Logix Inputs

No.	Name Description	Values	
615	**Real In07** Displays input word 07 of the controller communication format in floating point format. Paired with parameter 614 [Integer In07], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point Communication Logix Inputs
616	**Integer In08** Displays input word 08 of the controller communication format in integer format. Paired with parameter 617 [Real In08], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer Communication Logix Inputs
617	**Real In08** Displays input word 08 of the controller communication format in floating point format. Paired with parameter 616 [Integer In08], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point Communication Logix Inputs
618	**Integer In09** Displays input word 09 of the controller communication format in integer format. Paired with parameter 619 [Real In09], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer Communication Logix Inputs
619	**Real In09** Displays input word 09 of the controller communication format in floating point format. Paired with parameter 618 [Integer In09], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point Communication Logix Inputs
620	**Integer In10** Displays input word 10 of the controller communication format in integer format. Paired with parameter 621 [Real In10], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer Communication Logix Inputs
621	**Real In10** Displays input word 10 of the controller communication format in floating point format. Paired with parameter 620 [Integer In10], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point Communication Logix Inputs
622	**Integer In11** Displays input word 11 of the controller communication format in integer format. Paired with parameter 623 [Real In11], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer Communication Logix Inputs

No.	Name Description	Values	
623	**Real In11** Displays input word 11 of the controller communication format in floating point format. Paired with parameter 622 [Integer In11], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point Communication Logix Inputs
624	**Integer In12** Displays input word 12 of the controller communication format in integer format. Paired with parameter 625 [Real In12], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer Communication Logix Inputs
625	**Real In12** Displays input word 12 of the controller communication format in floating point format. Paired with parameter 624 [Integer In12], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point Communication Logix Inputs
626	**Integer In13** Displays input word 13 of the controller communication format in integer format. Paired with parameter 627 [Real In13], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer Communication Logix Inputs
627	**Real In13** Displays input word 13 of the controller communication format in floating point format. Paired with parameter 626 [Integer In13], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point Communication Logix Inputs
628	**Integer In14** Displays input word 14 of the controller communication format in integer format. Paired with parameter 629 [Real In14], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer Communication Logix Inputs
629	**Real In14** Displays input word 14 of the controller communication format in floating point format. Paired with parameter 628 [Integer In14], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point Communication Logix Inputs
630	**Integer In15** Displays input word 15 of the controller communication format in integer format. Paired with parameter 631 [Real In15], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer Communication Logix Inputs

No.	Name Description	Values	
631	**Real In15** Displays input word 15 of the controller communication format in floating point format. Paired with parameter 630 [Integer In15], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point Communication Logix Inputs
632	**Integer Out00** Displays output word 00 of the controller communication format in integer format. Paired with parameter 633 [Real Out00], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer Communication Logix Outputs
633	**Real Out00** Displays output word 00 of the controller communication format in floating point format. Paired with parameter 632 [Integer Out00], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Communication Logix Outputs
634	**Integer Out01** Displays output word 01 of the controller communication format in integer format. Paired with parameter 635 [Real Out01], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer Communication Logix Outputs
635	**Real Out01** Displays output word 01 of the controller communication format in floating point format. Paired with parameter 634 [Integer Out01], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Communication Logix Outputs
636	**Integer Out02** Displays output word 02 of the controller communication format in integer format. Paired with parameter 637 [Real Out02], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer Communication Logix Outputs
637	**Real Out02** Displays output word 02 of the controller communication format in floating point format. Paired with parameter 636 [Integer Out02], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Communication Logix Outputs
638	**Integer Out03** Displays output word 03 of the controller communication format in integer format. Paired with parameter 639 [Real Out03], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer Communication Logix Outputs

No.	Name Description	Values	
639	**Real Out03** Displays output word 03 of the controller communication format in floating point format. Paired with parameter 638 [Integer Out03], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Communication Logix Outputs
640	**Integer Out04** Displays output word 04 of the controller communication format in integer format. Paired with parameter 641 [Real Out04], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer Communication Logix Outputs
641	**Real Out04** Displays output word 04 of the controller communication format in floating point format. Paired with parameter 640 [Integer Out04], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer Communication Logix Outputs
642	**Integer Out05** Displays output word 05 of the controller communication format in integer format. Paired with parameter 643 [Real Out05], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Communication Logix Outputs
643	**Real Out05** Displays output word 05 of the controller communication format in floating point format. Paired with parameter 642 [Integer Out05], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer Communication Logix Outputs
644	**Integer Out06** Displays output word 06 of the controller communication format in integer format. Paired with parameter 645 [Real Out06], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Communication Logix Outputs
645	**Real Out06** Displays output word 06 of the controller communication format in floating point format. Paired with parameter 644 [Integer Out06], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer Communication Logix Outputs
646	**Integer Out07** Displays output word 07 of the controller communication format in integer format. Paired with parameter 647 [Real Out07], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Communication Logix Outputs

No.	Name Description	Values	
647	**Real Out07** Displays output word 07 of the controller communication format in floating point format. Paired with parameter 646 [Integer Out07], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer Communication Logix Outputs
648	**Integer Out08** Displays output word 08 of the controller communication format in integer format. Paired with parameter 649 [Real Out08], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Communication Logix Outputs
649	**Real Out08** Displays output word 08 of the controller communication format in floating point format. Paired with parameter 648 [Integer Out08], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer Communication Logix Outputs
650	**Integer Out09** Displays output word 09 of the controller communication format in integer format. Paired with parameter 651 [Real Out09], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Communication Logix Outputs
651	**Real Out09** Displays output word 09 of the controller communication format in floating point format. Paired with parameter 650 [Integer Out09], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer Communication Logix Outputs
652	**Integer Out10** Displays output word 10 of the controller communication format in integer format. Paired with parameter 653 [Real Out10], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Communication Logix Outputs
653	**Real Out10** Displays output word 10 of the controller communication format in floating point format. Paired with parameter 652 [Integer Out10], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer Communication Logix Outputs
654	**Integer Out11** Displays output word 11 of the controller communication format in integer format. Paired with parameter 655 [Real Out11], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Communication Logix Outputs

No.	Name Description	Values	
655	**Real Out11** Displays output word 11 of the controller communication format in floating point format. Paired with parameter 654 [Integer Out11], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer Communication Logix Outputs
656	**Integer Out12** Displays output word 12 of the controller communication format in integer format. Paired with parameter 657 [Real Out12], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer Communication Logix Outputs
657	**Real Out12** Displays output word 12 of the controller communication format in floating point format. Paired with parameter 656 [Integer Out12], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Communication Logix Outputs
658	**Integer Out13** Displays output word 13 of the controller communication format in integer format. Paired with parameter 659 [Real Out13], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer Communication Logix Outputs
659	**Real Out13** Displays output word 13 of the controller communication format in floating point format. Paired with parameter 658 [Integer Out13], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Communication Logix Outputs
660	**Integer Out14** Displays output word 14 of the controller communication format in integer format. Paired with parameter 661 [Real Out14], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer Communication Logix Outputs
661	**Real Out14** Displays output word 14 of the controller communication format in floating point format. Paired with parameter 660 [Integer Out14], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Communication Logix Outputs
662	**Integer Out15** Displays output word 15 of the controller communication format in integer format. Paired with parameter 663 [Real Out15], which displays the same data in floating point format.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer Communication Logix Outputs

No.	Name Description	Values	
663	**Real Out15** Displays output word 15 of the controller communication format in floating point format. Paired with parameter 662 [Integer Out15], which displays the same data in integer format.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point Communication Logix Outputs
664	**Lgx Comm Format** Indicates the Controller to Drive Module communication format. • A value of 18 indicates User-Defined • A value of 32 indicates Custom User-Defined	Default: Min: Max: Type: File: Group:	0 0 4294967296 Non-Linkable, Read-Only, 32-Bit Integer Communication Commands
1000	**SL Node Cnfg** Set bits to configure the SynchLink node. • Setting bit 0 configures the local node as the Time Master. • Setting bit 2 configures the node to synchronize with the Time Master immediately (1-2S per node) on power-up or recovery. If you do not set bit 2, the node will stay in the fast mode, taking up to 36S per node to synchronize on power-up or recovery.	Default:	0000 0000 000 00000 0000 0000 0000 0100
		Options	Bit 0 Time Keeper Bit 1 Reserved Bit 2 Sync Now Bit 3 Reserved Bit 4 Reserved Bit 5 Reserved Bit 6 Reserved Bit 7 Reserved Bit 8 Reserved Bit 9 Reserved Bti 10 Reserved Bit 11 Reserved Bit 12 Reserved Bit 13 Reserved Bit 14 Reserved Bit 15 Reserved Bit 16 Reserved Bit 17 Reserved Bit 18 Reserved Bit 19 Reserved Bit 20 Reserved Bit 21 Reserved Bit 22 Reserved Bit 23 Reserved Bti 24 Reserved Bit 25 Reserved Bit 26 Reserved Bit 27 Reserved Bit 28 Reserved Bti 29 Reserved Bit 30 Reserved Bit 31 Reserved
		File: Group:	SynchLink SynchLink Config
1001	**SynchLink Rev** Indicates the current revision of the local SynchLink Programmable Logic Firmware.	Default: Min: Max: Type: File: Group:	0.1 0.1 999.9 Non-Linkable, Read-Only, 16-Bit Integer Monitor Drive Data

No.	Name Description	Values				
1002	**SL System Rev** Indicates the system revision of the SynchLink network. To be compatible on the network, all nodes must have the same major revision.	Default: Min: Max: Type: File: Group:	0.001 0.001 999.999 Non-Linkable, Read-Only, 32-Bit Integer Monitor Drive Data			
1010	**SL Rx Comm Frmt** Defines the node's communication format for receiving SynchLink data. This determines the number of axis data, direct data and buffered data words received. Configure the format by using the Peer Communication window in DriveExecutive programming software.		Value	Axis	Direct	Buffered
		Options:	Val 0	0	0	0
		File: Group:	SynchLink SynchLink Config			
1011	**SL Rx DirectSel0** Determines the destination for the data received at word 0 of direct received data. Configure the selection by using the Peer Communication window.	Default:	Val 0	No Data		
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10	No Data SL Multiply Event P0 Event P1 Event D0 Event D1 Event D2 Event D3 Event Opt0 Event Opt1 Event Status		
		File: Group:	SynchLink SynchLink Config			
1012	**SL Rx DirectSel1** Determines the destination for the data received at word 1 of direct received data. Configure the selection by using the Peer Communication window.	Default:	Val 0	No Data		
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10	No Data SL Multiply Event P0 Event P1 Event D0 Event D1 Event D2 Event D3 Event Opt0 Event Opt1 Event Status		
		File: Group:	SynchLink SynchLink Config			

No.	Name Description	Values				
1013	**SL Rx DirectSel2** Determines the destination for the data received at word 2 of direct received data. Configure the selection by using the Peer Communication window.	Default:	Val 0	No Data		
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10	No Data SL Multiply Event P0 Event P1 Event D0 Event D1 Event D2 Event D3 Event Opt0 Event Opt1 Event Status		
		File: Group:	SynchLink SynchLink Config			
1014	**SL Rx DirectSel3** Determines the destination for the data received at word 3 of direct received data. Configure the selection by using the Peer Communication window.	Default:	Val 0	No Data		
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10	No Data SL Multiply Event P0 Event P1 Event D0 Event D1 Event D2 Event D3 Event Opt0 Event Opt1 Event Status		
		File: Group:	SynchLink SynchLink Config			
1020	**SL Tx Comm Frmt** Defines the node's communication format for transmitting SynchLink data. This determines the number of axis data words, direct data words and buffered data words transmitted. Configure the format by using the Peer Communication window.		Value	Axis	Direct	Buffered
		Options:	Val 0	0	0	0
		File: Group:	SynchLink SynchLink Config			

No.	Name Description	Values		
1021	**SL Tx DirectSel0** Determines the source type for the data transmitted by direct transmit word 0. The source type selections are: no data, event, feedback and drive parameter. If drive parameter is selected, a parameter of the appropriate data format (integer or real) must be linked to parameter 1141 [SL Dir Int Tx0] or parameter 1142 [SL Dir Real Tx0]. Configure the selection by using the Peer Communication window.	Default:	Val 0	No Data
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14 Val 15 Val 16 Val 17 Val 18 Val 19 Val 20 Val 21 Val 22 Val 23 Val 24 Val 25 Val 26	No Data SL Multiply Event P0 Event P1 Event D0 Event D1 Event D2 Event D3 Event Opt0 Event Opt1 Event Status Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Dir Tx Data Dir Rx Data E0 Accum E1 Accum Opt0 Accum Opt1 Accum
		File: Group:	SynchLink SynchLink Config	

No.	Name Description	Values		
1022	**SL Tx DirectSel1** Determines the source type for the data transmitted by direct transmit word 1. The source type selections are: no data, event, feedback and drive parameter. If drive parameter is selected, a parameter of the appropriate data format (integer or real) must be linked to parameter 1143 [SL Dir Int Tx1] or parameter 1144 [SL Dir Real Tx1]. Configure the selection by using the Peer Communication window.	Default:	Val 0	No Data
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14 Val 15 Val 16 Val 17 Val 18 Val 19 Val 20 Val 21 Val 22 Val 23 Val 24 Val 25 Val 26	No Data SL Multiply Event P0 Event P1 Event D0 Event D1 Event D2 Event D3 Event Opt0 Event Opt1 Event Status Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Dir Tx Data Dir Rx Data E0 Accum E1 Accum Opt0 Accum Opt1 Accum
		File: Group:	SynchLink SynchLink Config	

No.	Name Description	Values		
1023	**SL Tx DirectSel2** Determines the source type for the data transmitted by direct transmit word 2. The source type selections are: no data, event, feedback and drive parameter. If drive parameter is selected, a parameter of the appropriate data format (integer or real) must be linked to parameter 1145 [SL Dir Int Tx2] or parameter 1146 [SL Dir Real Tx2]. Configure the selection by using the Peer Communication window.	Default:	Val 0	No Data
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14 Val 15 Val 16 Val 17 Val 18 Val 19 Val 20 Val 21 Val 22 Val 23 Val 24 Val 25 Val 26	No Data SL Multiply Event P0 Event P1 Event D0 Event D1 Event D2 Event D3 Event Opt0 Event Opt1 Event Status Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Dir Tx Data Dir Rx Data E0 Accum E1 Accum Opt0 Accum Opt1 Accum
		File: Group:	SynchLink SynchLink Config	

No.	Name Description	Values		
1024	**SL Tx DirectSel3** Determines the source type for the data transmitted by direct transmit word 3. The source type selections are: no data, event, feedback and drive parameter. If drive parameter is selected, a parameter of the appropriate data format (integer or real) must be linked to parameter 1147 [SL Dir Int Tx3] or parameter 1148 [SL Dir Real Tx3]. Configure the selection by using the Peer Communication window.	Default:	Val 0	No Data
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14 Val 15 Val 16 Val 17 Val 18 Val 19 Val 20 Val 21 Val 22 Val 23 Val 24 Val 25 Val 26	No Data SL Multiply Event P0 Event P1 Event D0 Event D1 Event D2 Event D3 Event Opt0 Event Opt1 Event Status Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Dir Tx Data Dir Rx Data E0 Accum E1 Accum Opt0 Accum Opt1 Accum
		File: Group:	SynchLink SynchLink Config	
1030	**SL Mult A In** Displays the A Multiplier Input, as a floating point (real) value. This value is divided by the parameter 1032 [SL Mult Base]. The source of the A Multiplier is determined by the "Rx Direct Data Selector" (parameters 1011-1014). The possible sources are: zero, parameter 1054[Dir Int Rx0], parameter 1056 [Dir Int Rx1], parameter 1058 [Dir Int Rx2], or parameter 1060 [Dir Int Rx3]. The SynchLink Multiply function takes this input before it is converted to floating point.	Default: Min: Max: Type: File: Group:	0 0 16 Non-Linkable, Read-Only, Floating Point SynchLink Multiplier	
1031	**SL Mult B In** The B Multiplier Input. This must be a floating point (real) value. The SynchLink Multiply function takes this input after it is converted to integer.	Default: Min: Max: Type: File: Group:	1 0.5 2 Linkable, Read-Write, Floating Point SynchLink Multiplier	
1032	**SL Mult Base** Specifies the base for SynchLink real to integer and integer to real conversion functions. Determines the resolution of the conversion results. You must use the same value at the transmitting node and receiving / multiplying nodes. Enter a value that will not produce an overflow - the product of this value and the inputs to the conversion and multiply functions must be less than 65,536.	Default: Min: Max: Type: File: Group:	10000 5000 50000 Non-Linkable, Read-Write, Floating Point SynchLink Multiplier	

No.	Name Description	Values		
1033	**SL Mult Out** Displays the output of the SynchLink Multiply function as a floating (real) value. The value is the result of the formula "Mult A In source (interger) x parameter 1031 [Mult B In] / parameter 1032 [Mult Base]" or "parameter 1030 [Mult A In] x parameter 1031 [Mult B In]". Note: the SynchLink Multiply function produces an output that is always positive.	Default: Min: Max: Type: File: Group:	0 0 16 Non-Linkable, Read-Only, Floating Point SynchLink Multiplier	
1034	**SL Mult State** Displays the status of the SynchLink Multiply function. • Bit 0 [Local Ovflow] indicates a math overflow due to local multiply. • Bit 1 [Rx Overflow] indicates a math overflow in received data. • Bit 3 [Ftol Ovflow] indicates a math overflow in the real to integer conversion function.	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bti 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15 Bit 16 Bit 17 Bit 18 Bit 19 Bit 20 Bit 21 Bit 22 Bit 23 Bit 24 Bit 25 Bit 26 Bit 27 Bit 28 Bit 29 Bit 30 Bit 31	Local Ovflow Rx Overflow Reserved Ftol Ovflow Reserved
		File: Group:	SynchLink Multiplier	
1035	**Real to Int In** Provides the floating point (real) input to the real to integer conversion function.	Default: Min: Max: Type: File: Group:	0 -16 16 Linkable, Read-Write, Floating Point SynchLink Multiplier	

No.	Name Description	Values		
1036	**Real to Int Out** Displays the integer output of the real to integer conversion function. The value is the result of the formula "parameter 1035 [Real to Int In] x parameter 1032 [SL Mult Base]".	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read-Only, 16-Bit Integer SynchLink Multiplier	
1040	**SL Rcv Events** Displays the received event status from parameter 1041 [Rx P0 Regis] through parameter 1048 [Rx Opt1 Regis].	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bti 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15 Bit 16 Bit 17 Bit 18 Bit 19 Bit 20 Bit 21 Bit 22 Bit 23 Bit 24 Bit 25 Bit 26 Bit 27 Bit 28 Bit 29 Bit 30 Bit 31	E0 Regis E1 Regis D0 D1 D2 D3 Opt0 Regis Opt1 Regis Reserved
		File: Group:	SynchLink Event Data	
1041	**SL Rx P0 Regis** Displays received port 0 registration data, if direct received data is configured to be port 0 registration data by the Rx Direct Data Selector (parameters 1011-1014). Configure this selection by using the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Event Data	
1042	**SL Rx P1 Regis** Displays received port 1 registration data, if direct received data is configured to be port 1 registration data by the Rx Direct Data Selector (parameters 1011-1014). Configure this selection by using the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Event Data	

No.	Name Description	Values	
1043	**SL Rx D0 Latch** Displays received event D0 latch data, if direct received data is configured to be event D0 latch data by the Rx Direct Data Selector (parameters 1011-1014). Configure this selection by using the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Event Data
1044	**SL Rx D1 Latch** Displays received event D1 latch data, if direct received data is configured to be event D1 latch data by the Rx Direct Data Selector (parameters 1011-1014). Configure this selection by using the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Event Data
1045	**SL Rx D2 Latch** Displays received event D2 latch data, if direct received data is configured to be event D2 latch data by the Rx Direct Data Selector (parameters 1011-1014). Configure this selection by using the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Event Data
1046	**SL Rx D3 Latch** Displays received event D3 latch data, if direct received data is configured to be event D3 latch data by the Rx Direct Data Selector (parameters 1011-1014). Configure this selection by using the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Event Data
1047	**SL Rx Opt0 Regis** Displays received registration data from feedback option 1 (high resolution encoder daughter card), if direct received data is configured to be feedback option 1 registration data by the Rx Direct Data Selector (parameters 1011-1014). Configure this selection by using the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Event Data
1048	**SL Rx Opt1 Regis** Displays received registration data from feedback option 0 (high resolution encoder daughter card), if direct received data is configured to be feedback option 0 registration data by the Rx Direct Data Selector (parameters 1011-1014). Configure this selection by using the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Event Data
1054	**SL Dir Int Rx0** Displays the integer value of the Direct Received Data for word 0. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1055 [SL Dir Real Rx0].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Direct Data
1055	**SL Dir Real Rx0** Displays the floating point (real) value of the Direct Received Data for word 0. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1054 [SL Dir Int Rx0].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Direct Data

No.	Name Description	Values	
1056	**SL Dir Int Rx1** Displays the integer value of the Direct Received Data for word 1. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1057 [SL Dir Real Rx1].	Default: Min: Max: Type: File: Group	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Direct Data
1057	**SL Dir Real Rx1** Displays the floating point (real) value of the Direct Received Data for word 1. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1056 [SL Dir Int Rx1].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Direct Data
1058	**SL Dir Int Rx2** Displays the integer value of the Direct Received Data for word 2. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1059 [SL Dir Real Rx2].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Direct Data
1059	**SL Dir Real Rx2** Displays the floating point (real) value of the Direct Received Data for word 2. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1058 [SL Dir Int Rx2].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Direct Data
1060	**SL Dir Int Rx3** Displays the integer value of the Direct Received Data for word 3. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1061 [SL Dir Real Rx3].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Direct Data
1061	**SL Dir Real Rx3** Displays the floating point (real) value of the Direct Received Data for word 3. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1060 [SL Dir Int Rx3].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Direct Data
1073	**SL Buf Int Rx00** Displays the integer value of the Buffered Received Data for word 0. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1074 [SL Buf Real Rx00].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In
1074	**SL Buf Real Rx00** Displays the floating point (real) value of the Buffered Received Data for word 0. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1073 [SL Buf Int Rx00].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In

No.	Name Description	Values	
1075	**SL Buf Int Rx01** Displays the integer value of the Buffered Received Data for word 1. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1076 [SL Buf Real Rx01].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In
1076	**SL Buf Real Rx01** Displays the floating point (real) value of the Buffered Received Data for word 1. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1075 [SL Buf Int Rx01].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1077	**SL Buf Int Rx02** Displays the integer value of the Buffered Received Data for word 2. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1078 [SL Buf Real Rx02].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In
1078	**SL Buf Real Rx02** Displays the floating point (real) value of the Buffered Received Data for word 2. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1079 [SL Buf Int Rx02].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1079	**SL Buf Int Rx03** Displays the integer value of the Buffered Received Data for word 3. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1080 [SL Buf Real Rx03].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In
1080	**SL Buf Real Rx03** Displays the floating point (real) value of the Buffered Received Data for word 3. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1079 [SL Buf Int Rx03].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1081	**SL Buf Int Rx04** Displays the integer value of the Buffered Received Data for word 4. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1082 [SL Buf Real Rx04].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable Read-Only, 32-Bit Integer SynchLink Buffered Data In
1082	**SL Buf Real Rx04** Displays the floating point (real) value of the Buffered Received Data for word 4. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1081 [SL Buf Int Rx04].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable Read-Only, Floating Point SynchLink Buffered Data In

No.	Name Description	Values	
1083	**SL Buf Int Rx05** Displays the integer value of the Buffered Received Data for word 5. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1084 [SL Buf Real Rx05].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable Read-Only, 32-Bit Integer SynchLink Buffered Data In
1084	**SL Buf Real Rx05** Displays the floating point (real) value of the Buffered Received Data for word 5. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1083 [SL Buf Int Rx05].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable Read-Only, Floating Point SynchLink Buffered Data In
1085	**SL Buf Int Rx06** Displays the integer value of the Buffered Received Data for word 6. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1086 [SL Buf Real Rx06].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable Read-Only, 32-Bit Integer SynchLink Buffered Data In
1086	**SL Buf Real Rx06** Displays the floating point (real) value of the Buffered Received Data for word 6. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1085 [SL Buf Int Rx06].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable Read-Only, Floating Point SynchLink Buffered Data In
1087	**SL Buf Int Rx07** Displays the integer value of the Buffered Received Data for word 7. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1088 [SL Buf Real Rx07].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable Read-Only, 32-Bit Integer SynchLink Buffered Data In
1088	**SL Buf Real Rx07** Displays the floating point (real) value of the Buffered Received Data for word 7. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1087 [SL Buf Int Rx07].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1089	**SL Buf Int Rx08** Displays the integer value of the Buffered Received Data for word 8. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1090 [SL Buf Real Rx08].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In

No.	Name Description	Values	
1090	**SL Buf Real Rx08** Displays the floating point (real) value of the Buffered Received Data for word 8. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1089 [SL Buf Int Rx08].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1091	**SL Buf Int Rx09** Displays the integer value of the Buffered Received Data for word 9. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1092 [SL Buf Real Rx09].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In
1092	**SL Buf Real Rx09** Displays the floating point (real) value of the Buffered Received Data for word 9. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1091 [SL Buf Int Rx09].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1093	**SL Buf Int Rx10** Displays the integer value of the Buffered Received Data for word 10. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1094 [SL Buf Real Rx10].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In
1094	**SL Buf Real Rx10** Displays the floating point (real) value of the Buffered Received Data for word 10. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1093 [SL Buf Int Rx10].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1095	**SL Buf Int Rx11** Displays the integer value of the Buffered Received Data for word 11. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1096 [SL Buf Real Rx11].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In
1096	**SL Buf Real Rx11** Displays the floating point (real) value of the Buffered Received Data for word 11. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1095 [SL Buf Int Rx11].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1097	**SL Buf Int Rx12** Displays the integer value of the Buffered Received Data for word 12. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1098 [SL Buf Real R12].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In

No.	Name Description	Values	
1098	**SL Buf Real Rx12** Displays the floating point (real) value of the Buffered Received Data for word 12. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1097 [SL Buf Int R12].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1099	**SL Buf Int Rx13** Displays the integer value of the Buffered Received Data for word 13. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1100 [SL Buf Real R13].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In
1100	**SL Buf Real Rx13** Displays the floating point (real) value of the Buffered Received Data for word 13. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1099 [SL Buf Int R13].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1101	**SL Buf Int Rx14** Displays the integer value of the Buffered Received Data for word 14. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1102 [SL Buf Real R14].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In
1102	**SL Buf Real Rx14** Displays the floating point (real) value of the Buffered Received Data for word 14. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1101 [SL Buf Int R14].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1103	**SL Buf Int Rx15** Displays the integer value of the Buffered Received Data for word 15. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1104 [SL Buf Real R15].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In
1104	**SL Buf Real Rx15** Displays the floating point (real) value of the Buffered Received Data for word 15. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1103 [SL Buf Int R15].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1105	**SL Buf Int Rx16** Displays the integer value of the Buffered Received Data for word 16. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1106 [SL Buf Real Rx16].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In

No.	Name Description	Values	
1106	**SL Buf Real Rx16** Displays the floating point (real) value of the Buffered Received Data for word 16. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1105 [SL Buf Int Rx16].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1107	**SL Buf Int Rx17** Displays the integer value of the Buffered Received Data for word 17. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1108 [SL Buf Real Rx17].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In
1108	**SL Buf Real Rx17** Displays the floating point (real) value of the Buffered Received Data for word 17. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1107 [SL Buf Int Rx17].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1109	**SL Buf Int Rx18** Displays the integer value of the Buffered Received Data for word 18. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1110 [SL Buf Real Rx18].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In
1110	**SL Buf Real Rx18** Displays the floating point (real) value of the Buffered Received Data for word 18. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1109 [SL Buf Int Rx18].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1111	**SL Buf Int Rx19** Displays the integer value of the Buffered Received Data for word 19. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1112 [SL Buf Real Rx19].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In
1112	**SL Buf Real Rx19** Displays the floating point (real) value of the Buffered Received Data for word 19. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1111 [SL Buf Int Rx19].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1113	**SL Buf Int Rx20** Displays the integer value of the Buffered Received Data for word 20. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1114 [SL Buf Real Rx20].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In

No.	Name Description	Values	
1114	**SL Buf Real Rx20** Displays the floating point (real) value of the Buffered Received Data for word 20. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1113 [SL Buf Int Rx20].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1115	**SL Buf Int Rx21** Displays the integer value of the Buffered Received Data for word 21. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1116 [SL Buf Real Rx21].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In
1116	**SL Buf Real Rx21** Displays the floating point (real) value of the Buffered Received Data for word 21. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1115 [SL Buf Int Rx21].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1117	**SL Buf Int Rx22** Displays the integer value of the Buffered Received Data for word 22. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1118 [SL Buf Real Rx22].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In
1118	**SL Buf Real Rx22** Displays the floating point (real) value of the Buffered Received Data for word 22. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1117 [SL Buf Int Rx22].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1119	**SL Buf Int Rx23** Displays the integer value of the Buffered Received Data for word 23. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1120 [SL Buf Real Rx23].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In
1120	**SL Buf Real Rx23** Displays the floating point (real) value of the Buffered Received Data for word 23. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1119 [SL Buf Int Rx23].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1121	**SL Buf Int Rx24** Displays the integer value of the Buffered Received Data for word 24. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1122 [SL Buf Real Rx24].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In

No.	Name Description	Values	
1122	**SL Buf Real Rx24** Displays the floating point (real) value of the Buffered Received Data for word 24. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1121 [SL Buf Int Rx24].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1123	**SL Buf Int Rx25** Displays the integer value of the Buffered Received Data for word 25. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1124 [SL Buf Real Rx25].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In
1124	**SL Buf Real Rx25** Displays the floating point (real) value of the Buffered Received Data for word 25. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1123 [SL Buf Int Rx25].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1125	**SL Buf Int Rx26** Displays the integer value of the Buffered Received Data for word 26. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1126 [SL Buf Real Rx26].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In
1126	**SL Buf Real Rx26** Displays the floating point (real) value of the Buffered Received Data for word 26. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1125 [SL Buf Int Rx26].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1127	**SL Buf Int Rx27** Displays the integer value of the Buffered Received Data for word 27. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1128 [SL Buf Real Rx27].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In
1128	**SL Buf Real Rx27** Displays the floating point (real) value of the Buffered Received Data for word 27. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1127 [SL Buf Int Rx27].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1129	**SL Buf Int Rx28** Displays the integer value of the Buffered Received Data for word 28. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1130 [SL Buf Real Rx28].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In

No.	Name Description	Values	
1130	**SL Buf Real Rx28** Displays the floating point (real) value of the Buffered Received Data for word 28. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1129 [SL Buf Int Rx28].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1131	**SL Buf Int Rx29** Displays the integer value of the Buffered Received Data for word 29. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1132 [SL Buf Real Rx29].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer SynchLink Buffered Data In
1132	**SL Buf Real Rx29** Displays the floating point (real) value of the Buffered Received Data for word 29. Data transmitted from one node to another must be the same data type. This parameter is paired with paramter 1131 [SL Buf Int Rx29].	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Non-Linkable, Read-Only, Floating Point SynchLink Buffered Data In
1140	**Tx Dir Data Type** Indicates the data type of each Direct Transmit word. If the word's bit is set the data type is floating point (real). If the bit is not set the data type is integer. Use the Peer Communictation window to configure this selection.	Default:	0000 0000 0000 0000 0000 0000 0000 0000
		Options	Bit 0 Real Tx0 Bit 1 Real Tx1 Bit 2 Real Tx2 Bit 3 Real Tx3 Bit 4 Reserved Bit 5 Reserved Bit 6 Reserved Bit 7 Reserved Bit 8 Reserved Bit 9 Reserved Bti 10 Reserved Bit 11 Reserved Bit 12 Reserved Bit 13 Reserved Bit 14 Reserved Bit 15 Reserved Bit 16 Reserved Bit 17 Reserved Bit 18 Reserved Bit 19 Reserved Bit 20 Reserved Bit 21 Reserved Bit 22 Reserved Bit 23 Reserved Bit 24 Reserved Bit 25 Reserved Bit 26 Reserved Bit 27 Reserved Bit 28 Reserved Bit 29 Reserved Bit 30 Reserved Bit 31 Reserved
		File: Group:	SynchLink Direct Data

No.	Name Description	Values	
1141	**SL Dir Int Tx0** Provides integer data for Direct Transmit word 0, if the data type for word 0 (indicated in parameter 1140 [Tx Dir Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Direct Data
1142	**SL Dir Real Tx0** Provides floating point (real) data for Direct Transmit word 0, if the data type for word 0 (indicated in parameter 1140 [Tx Dir Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Direct Data
1143	**SL Dir Int Tx1** Provides integer data for Direct Transmit word 1, if the data type for word 1 (indicated in parameter 1140 [Tx Dir Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Direct Data
1144	**SL Dir Real Tx1** Provides floating point (real) data for Direct Transmit word 1, if the data type for word 1 (indicated in parameter 1140 [Tx Dir Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Direct Data
1145	**SL Dir Int Tx2** Provides integer data for Direct Transmit word 2, if the data type for word 2 (indicated in parameter 1140 [Tx Dir Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Direct Data
1146	**SL Dir Real Tx2** Provides floating point (real) data for Direct Transmit word 2, if the data type for word 2 (indicated in parameter 1140 [Tx Dir Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Direct Data
1147	**SL Dir Int Tx3** Provides integer data for Direct Transmit word 3, if the data type for word 3 (indicated in parameter 1140 [Tx Dir Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Direct Data
1148	**SL Dir Real Tx3** Provides floating point (real) data for Direct Transmit word 3, if the data type for word 3 (indicated in parameter 1140 [Tx Dir Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Direct Data

No.	Name Description	Values	
1160	**Tx Buf Data Type** Indicates the data type of each Buffered Transmit word. If the word's bit is set the data type is floating point (real). If the bit is not set the data type is integer. Use the Peer Communictation window to configure this selection.	Default:	0000 0000 0000 0000 0000 0000 0000 0000
		Options	Bit 0 Real Tx0 Bit 1 Real Tx1 Bit 2 Real Tx2 Bit 3 Real Tx3 Bit 4 Real Tx4 Bit 5 Real Tx5 Bit 6 Real Tx6 Bit 7 Real Tx7 Bit 8 Real Tx8 Bit 9 Real Tx9 Bti 10 Real Tx10 Bit 11 Real Tx11 Bit 12 Real Tx12 Bit 13 Real Tx13 Bit 14 Real Tx14 Bit 15 Real Tx15 Bit 16 Real Tx16 Bit 17 Real Tx17 Bit 18 Real Tx18 Bit 19 Real Tx19 Bit 20 Real Tx20 Bit 21 Real Tx21 Bit 22 Real Tx22 Bit 23 Real Tx23 Bit 24 Real Tx24 Bit 25 Real Tx25 Bit 26 Real Tx26 Bit 27 Real Tx27 Bit 28 Real Tx28 Bit 29 Real Tx29 Bit 30 Reserved Bit 31 Reserved
		File: Group:	SynchLink Buffered DataOut
1161	**SL Buf Int Tx00** Provides integer data for Direct Transmit word 0, if the data type for word 0 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut
1162	**SL Buf Real Tx00** Provides floating point (real) data for Direct Transmit word 0, if the data type for word 0 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1163	**SL Buf Int Tx01** Provides integer data for Direct Transmit word 1, if the data type for word 1 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut

No.	Name Description	Values	
1164	**SL Buf Real Tx01** Provides floating point (real) data for Direct Transmit word 1, if the data type for word 1 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1165	**SL Buf Int Tx02** Provides integer data for Direct Transmit word 2, if the data type for word 2 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut
1166	**SL Buf Real Tx02** Provides floating point (real) data for Direct Transmit word 2, if the data type for word 2 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1167	**SL Buf Int Tx03** Provides integer data for Direct Transmit word 3, if the data type for word 3 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut
1168	**SL Buf Real Tx03** Provides floating point (real) data for Direct Transmit word 3, if the data type for word 3 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1169	**SL Buf Int Tx04** Provides integer data for Direct Transmit word 4, if the data type for word 4 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut
1170	**SL Buf Real Tx04** Provides floating point (real) data for Direct Transmit word 4, if the data type for word 4 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1171	**SL Buf Int Tx05** Provides integer data for Direct Transmit word 5, if the data type for word 5 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut

No.	Name Description	Values	
1172	**SL Buf Real Tx05** Provides floating point (real) data for Direct Transmit word 5, if the data type for word 5 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1173	**SL Buf Int Tx06** Provides integer data for Direct Transmit word 6, if the data type for word 6 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut
1174	**SL Buf Real Tx06** Provides floating point (real) data for Direct Transmit word 6, if the data type for word 6 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1175	**SL Buf Int Tx07** Provides integer data for Direct Transmit word 7, if the data type for word 7 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut
1176	**SL Buf Real Tx07** Provides floating point (real) data for Direct Transmit word 7, if the data type for word 7 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1177	**SL Buf Int Tx08** Provides integer data for Direct Transmit word 8, if the data type for word 8 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut
1178	**SL Buf Real Tx08** Provides floating point (real) data for Direct Transmit word 8, if the data type for word 8 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1179	**SL Buf Int Tx09** Provides integer data for Direct Transmit word 9, if the data type for word 9 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut

No.	Name Description	Values	
1180	**SL Buf Real Tx09** Provides floating point (real) data for Direct Transmit word 9, if the data type for word 9 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1181	**SL Buf Int Tx10** Provides integer data for Direct Transmit word 10, if the data type for word 10 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut
1182	**SL Buf Real Tx10** Provides floating point (real) data for Direct Transmit word 10, if the data type for word 10 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1183	**SL Buf Int Tx11** Provides integer data for Direct Transmit word 11, if the data type for word 11 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut
1184	**SL Buf Real Tx11** Provides floating point (real) data for Direct Transmit word 11, if the data type for word 11 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1185	**SL Buf Int Tx12** Provides integer data for Direct Transmit word 12, if the data type for word 12 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut
1186	**SL Buf Real Tx12** Provides floating point (real) data for Direct Transmit word 12, if the data type for word 12 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1187	**SL Buf Int Tx13** Provides integer data for Direct Transmit word 13, if the data type for word 13 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut

No.	Name Description	Values	
1188	**SL Buf Real Tx13** Provides floating point (real) data for Direct Transmit word 13, if the data type for word 13 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1189	**SL Buf Int Tx14** Provides integer data for Direct Transmit word 14, if the data type for word 14 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut
1190	**SL Buf Real Tx14** Provides floating point (real) data for Direct Transmit word 14, if the data type for word 14 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1191	**SL Buf Int Tx15** Provides integer data for Direct Transmit word 15, if the data type for word 15 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut
1192	**SL Buf Real Tx15** Provides floating point (real) data for Direct Transmit word 15, if the data type for word 15 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1193	**SL Buf Int Tx16** Provides integer data for Direct Transmit word 16, if the data type for word 16 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut
1194	**SL Buf Real Tx16** Provides floating point (real) data for Direct Transmit word 16, if the data type for word 16 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1195	**SL Buf Int Tx17** Provides integer data for Direct Transmit word 17, if the data type for word 17 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut

No.	Name Description	Values	
1196	**SL Buf Real Tx17** Provides floating point (real) data for Direct Transmit word 17, if the data type for word 17 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1197	**SL Buf Int Tx18** Provides integer data for Direct Transmit word 18, if the data type for word 18 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut
1198	**SL Buf Real Tx18** Provides floating point (real) data for Direct Transmit word 18, if the data type for word 18 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1199	**SL Buf Int Tx19** Provides integer data for Direct Transmit word 19, if the data type for word 19 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut
1200	**SL Buf Real Tx19** Provides floating point (real) data for Direct Transmit word 19, if the data type for word 19 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1201	**SL Buf Int Tx20** Provides integer data for Direct Transmit word 20, if the data type for word 20 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut
1202	**SL Buf Real Tx20** Provides floating point (real) data for Direct Transmit word 20, if the data type for word 20 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1203	**SL Buf Int Tx21** Provides integer data for Direct Transmit word 21, if the data type for word 21 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut

No.	Name Description	Values	
1204	**SL Buf Real Tx21** Provides floating point (real) data for Direct Transmit word 21, if the data type for word 21 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1205	**SL Buf Int Tx22** Provides integer data for Direct Transmit word 22, if the data type for word 22 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut
1206	**SL Buf Real Tx22** Provides floating point (real) data for Direct Transmit word 22, if the data type for word 22 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1207	**SL Buf Int Tx23** Provides integer data for Direct Transmit word 23, if the data type for word 23 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut
1208	**SL Buf Real Tx23** Provides floating point (real) data for Direct Transmit word 23, if the data type for word 23 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1209	**SL Buf Int Tx24** Provides integer data for Direct Transmit word 24, if the data type for word 24 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut
1210	**SL Buf Real Tx24** Provides floating point (real) data for Direct Transmit word 24, if the data type for word 24 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1211	**SL Buf Int Tx25** Provides integer data for Direct Transmit word 25, if the data type for word 25 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut

No.	Name Description	Values	
1212	**SL Buf Real Tx25** Provides floating point (real) data for Direct Transmit word 25, if the data type for word 25 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1213	**SL Buf Int Tx26** Provides integer data for Direct Transmit word 26, if the data type for word 26 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut
1214	**SL Buf Real Tx26** Provides floating point (real) data for Direct Transmit word 26, if the data type for word 26 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1215	**SL Buf Int Tx27** Provides integer data for Direct Transmit word 27, if the data type for word 27 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut
1216	**SL Buf Real Tx27** Provides floating point (real) data for Direct Transmit word 27, if the data type for word 27 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1217	**SL Buf Int Tx28** Provides integer data for Direct Transmit word 28, if the data type for word 28 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut
1218	**SL Buf Real Tx28** Provides floating point (real) data for Direct Transmit word 28, if the data type for word 28 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut
1219	**SL Buf Int Tx29** Provides integer data for Direct Transmit word 29, if the data type for word 29 (indicated in parameter 1160 [Tx Buf Data Type]) is integer.	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Linkable, Read-Write, 32-Bit Integer SynchLink Buffered DataOut

No.	Name Description	Values		
1220	**SL Buf Real Tx29** Provides floating point (real) data for Direct Transmit word 29, if the data type for word 29 (indicated in parameter 1160 [Tx Buf Data Type]) is real.	Default: Min: Max: Type: File: Group:	0 -2200000000 2200000000 Linkable, Read-Write, Floating Point SynchLink Buffered DataOut	
1226	**SL Comm TP Sel** Enter or write a value to select SynchLink data displayed by parameter 1227 [SL Comm TP Data].	Default:	Val 0	Zero
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14 Val 15 Val 16 Val 17 Val 18 Val 19 Val 20 Val 21 Val 22 Val 23 Val 24 Val 25	Zero SL MultA Src SL Mult A In SL Mult B In SL Mult Out Rx Axis Size Rx Dir Size Rx Buf Size Rx Pkg Size Rx Seq Cnt Rx Index 0 Rx Index 1 Rx Index 2 BufSeqErrTim Rx Sys Rev Tx Axis Size Tx Dir Size Tx Buf Size Tx Pkg Size Tx Seq Cnt Tx Index 0 Tx Index 1 Tx Index 2 Rx Vendor ID Rx ModuleTyp Rx Serial #
		File: Group:	Utility Test Points	
1227	**SL Comm TP Data** Displays data selected by parameter 1226 [SL Comm TP Sel].	Default: Min: Max: Type: File: Group:	0 -2147483648 2147483648 Non-Linkable, Read-Only, 32-Bit Integer Utility Test Points	

No.	Name Description	Values		
1229	**SL Error Status** Indicates presence of SynchLink faults. This data is visable on the SynchLink diagnostics tab of the Peer Communication window.	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15 Bit 16 Bit 17 Bti 18 Bit 19 Bit 20 Bit 21 Bit 22 Bit 23 Bit 24 Bit 25 Bit 26 Bit 27 Bit 28 Bit 29 Bit 30 Bit 31	Sync Loss Rx Loss Many BOF Err Many CRC Err Pckg Msg Err CommForm Err Sys Rev Err Mult TKeeper Reserved
		File: Group:	Utility Diagnostics	
1230	**SL CRC Err Accum** Displays the total accumulated number of CRC errors. Clearing a fault resets this accumulator. This data is visable on the SynchLink diagnostics tab of the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 0 4294967296 Non-Linkable, Read-Only, 32-Bit Integer Utility Diagnostics	
1231	**SL CRC Error** Displays the number of CRC errors that occurred during the last test (last 8 mS). This data is visable on the SynchLink diagnostics tab of the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 0 4294967296 Non-Linkable, Read-Only, 32-Bit Integer Utility Diagnostics	
1232	**SL BOF Err Accum** Displays the total accumulated number of BOF errors. Clearing a fault resets this accumulator. This data is visable on the SynchLink diagnostics tab of the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 0 4294967296 Non-Linkable, Read-Only, 32-Bit Integer Utility Diagnostics	

No.	Name Description	Values	
1233	**SL BOF Error** Displays the number of BOF errors that occurred during the last test (last 8 mS). This data is visable on the SynchLink diagnostics tab of the Peer Communication window.	Default: Min: Max: Type: File: Group:	0 0 4294967296 Non-Linkable, Read-Only, 32-Bit Integer Utility Diagnostics
1234	**SL CRC Err Limit** The number of CRC errors per test (per 8 mS) allowed before the drive declares a SynchLink CRC Error exception event. Set this limit on the SynchLink diagnostics tab of the Peer Communication window.	Default: Min: Max: Type: File: Group:	2 0 256 Non-Linkable, Read-Write, 32-Bit Integer Utility Diagnostics
1235	**SL BOF Err Limit** The number of BOF errors per test (per 8 mS) allowed before the drive declares a SynchLink BOF Error exception event. Set this limit on the SynchLink diagnostics tab of the Peer Communication window.	Default: Min: Max: Type: File: Group:	2 0 256 Non-Linkable, Read-Write, 32-Bit Integer Utility Diagnostics
2000	**DM Com Prt Stat** Indicates faults or warnings related to the Drive Module's Drive Communication ports. • Bit 0 [Bad Rcv Int] indicates the interrupt generated by the Universal Serial Controller (USC) is not properly marked • Bit 1 [No EOF] indicates the USC did not report an End of Frame condition when the recieve interrupt was generated • Bit 2 [CRC Error] indicates the USC has reported a Cyclic Redundancy Check (CRC) error on the last frame (message) received • Bit 3 [Overrun Err] indicates the USC has reported a receive firs-in, first out error • Bit 4 [DMA Error] indicates the length of a received message did not match the length encoded in the message itself • Bit 5 [Xmit Underun] indicates the USC has reported a transmit first-in, first-out underrun • Bit 6 [Sync Error] indicates two or more CCLK counter ticks occurred and no message was recieved • Bit 7 [LoopBack Err] indicates failure in the loopback test (the transmit message did not match the receive message). The Drive Module performs this test on power-up and reset. • Bit 8 [Missed Gains] indicates gain data could not be written because memory was being written to when the gain values were received • Bit 9 [Multplx Err] indicates data which is multiplexed into a command/feedback message has not verified correctly • Bit 10 [No PMI OS] indicates the correct PMI operating system is not present in the Drive Module and the PMI is requesting an operating system • Bit 11 [Bad OS Hdr] indicates the Drive Module cannot locate a valid PMI operating system header when attempting to load an operating system to a PMI • Bit 12 [Bad PMI HW] indicates PMI hardware is not compatible with the PMI operating systems in the Drive Module	Default: Options: File: Group:	0000 0000 0000 0000 Bit 0 Bad Rcv Int Bit 1 No EOF Bit 2 CRC Error Bit 3 Overrun Err Bit 4 DMA Error Bit 5 Xmit Underun Bit 6 Sync Error Bit 7 LoopBack Err Bit 8 Missed Gains Bit 9 Multplx Err Bit 10 No PMI OS Bit 11 Bad OS Hdr Bit 12 Bad PMI HW Bit 13 Reserved Bit 14 Reserved Bit 15 Reserved DPS/PMI DPS/PMI

No.	Name Description	Values	
2001	**DM Good Msg Cnt** Displays the number of messages received by the Drive Module from the PMI processor. This is a 16-bit value that rolls over when it reaches its maximum.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read-Only, 16-Bit Integer DPS/PMI Comm Status
2002	**DM CRC Error Cnt** Displays the number of messages with CRC errors received by Drive Module from the PMI processor. This is a 16-bit value that rolls over when it reaches its maximum.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read-Only, 16-Bit Integer DPS/PMI Comm Status
2003	**DM Frmt ErrorCnt** Displays the number of messages with format errors received by Drive Module from the PMI processor. This is a 16-bit value that rolls over when it reaches its maximum.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read-Only, 16-Bit Integer DPS/PMI Comm Status
2004	**DM Com Prt Stat** Indicates faults or warnings related to the Drive Module's Drive Communication ports. • Bit 0 [Bad Rcv Int] indicates the interrupt generated by the Universal Serial Controller (USC) is not properly marked • Bit 1 [No EOF] indicates the USC did not report an End of Frame condition when the recieve interrupt was generated • Bit 2 [CRC Error] indicates the USC has reported a Cyclic Redundancy Check (CRC) error on the last frame (message) received • Bit 3 [Overrun Err] indicates the USC has reported a receive firs-in, first out error • Bit 4 [DMA Error] indicates the length of a received message did not match the length encoded in the message itself • Bit 5 [Xmit Underun] indicates the USC has reported a transmit first-in, first-out underrun • Bit 6 [Sync Error] indicates two or more CCLK counter ticks occurred and no message was recieved • Bit 8 [DM Sync Err] indicates two or more CCLK counter ticks occurred and no message was recieved • Bit 9 [Multplx Err] indicates data which is multiplexed into a command/feedback message has not verified correctly • Bit 12 [Bad Start Ad] indicates the operating system is not within the allocated operating system address area • Bit 13 [Bad PMI Mem] indicates there is insuffient memory in the PMI processor for loading the operating system • Bit 14 [Bad Load Ad] indicates the address at which the PMI processor is to load the operating system is invalid • Bit 15 [PMI OverFlow] indicates the loading of the PMI operating system will overrun the PMI stack memory area	Default: Options: File: Group:	0000 0000 0000 0000 Bit 0 Bad Rcv Int Bit 1 No EOF Bit 2 CRC Error Bit 3 Overrun Err Bit 4 DMA Error Bit 5 Xmit Underun Bit 6 Sync Error Bit 7 Reserved Bit 8 DM Sync Err Bit 9 Multplx Err Bit 10 Reserved Bit 11 Reserved Bit 12 Bad Start Ad Bit 13 Bad PMI Mem Bit 14 Bad Load Ad Bit 15 PMI OverFlow DPS/PMI DPS/PMI
2005	**PMI Good Msg Cnt** Displays the number of messages received by the PMI processor from the Drive Module. This is a 16-bit value that rolls over when it reaches its maximum.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read-Only, 16-Bit Integer DPS/PMI Comm Status

No.	Name Description	Values	
2006	**PMI CRC ErrorCnt** Displays the number of messages with CRC errors received by the PMI processor from the Drive Module. This is a 16-bit value that rolls over when it reaches its maximum.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read-Only, 16-Bit Integer DPS/PMI Comm Status
2007	**PMIFrmt ErrorCnt** Displays the number of messages with format errors received by the PMI processor from the Drive Module. This is a 16-bit value that rolls over when it reaches its maximum.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read-Only, 16-Bit Integer DPS/PMI Comm Status
2008	**DM Link Status** Indicates the current status of Drive Communication. • Bit 1 [Pending OS] indicates the Drive Module is waiting for a request from the PMI processor for an operating system • Bit 2 [Loading OS] indicates the Drive Module is downloading an operating system to the PMI processor • Bit 3 [Setpt Fdbk] indicates the Drive Module and PMI processor are exchanging data • Bit 5 [LoopBack Tst] indicates the Drive Module and PMI processor are performing the loopback test • Bit 6 [Test Mode] indicates tba • Bit 8 [Synchronized] indicates Drive Communication is synchronized • Bit 9 [Unsynchroniz] indicates Drive Communication is not synchronized	Default: Options: File: Group:	0000 0000 0000 0000 Bit 0 Reserved Bit 1 Pending OS Bit 2 Loading OS Bit 3 Setpt Fdbk Bit 4 Reserved Bit 5 LoopBack Tst Bit 6 Test Mode Bit 7 Reserved Bit 8 Synchronized Bit 9 Unsynchroniz Bit 10 Reserved Bit 11 Reserved Bit 12 Reserved Bit 13 Reserved Bit 14 Reserved Bit 15 Reserved DPS/PMI DPS/PMI
2009	**DM Tx Msg Count** Displays the number of messages transmitted by the Drive Module. This is a 16-bit value that rolls over when it reaches its maximum.	Default: Min: Max: Type: File: Group:	 0 0 65535 Non-Linkable, Read-Only, 16-Bit Integer DPS/PMI Comm Status
2010	**DM Sync WarngCnt** Displays the number of messages transmitted by the Drive Module, that the PMI processor can not synchronize. This is a 16-bit value that rolls over when it reaches its maximum.	Default: Min: Max: Type: File: Group:	 0 0 65535 Non-Linkable, Read-Only, 16-Bit Integer DPS/PMI Comm Status
2011	**DM Bad Msg Cnt** Displays the number of invalid messages transmitted on Drive Communication. This is a 16-bit value that rolls over when it reaches its maximum.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read-Only, 16-Bit Integer DPS/PMI Comm Status

No.	Name Description	Values	
2012	**DM Sync Count** Displays the value of an internal counter that synchronizes the Drive Module and PMI processor.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read-Only, 16-Bit Integer DPS/PMI Comm Status
2013	**PMI Gain Count** Displays the number of gain messages sent on Drive Communication. This is a 16-bit value that rolls over when it reaches its maximum.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read-Only, 16-Bit Integer DPS/PMI Comm Status
2014	**DM Tx Time** Displaysf the value of parameter 2012 [DM Sync Count] when the Drive Module finished transmitting a set point message.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read-Only, 16-Bit Integer DPS/PMI Comm Status
2015	**DM Tx Time Avail** Displays the value of theparameter 2012 [DM Sync Count] when the Drive Module receives a feedback message. This is a good indication of the amount of remaining bandwith on Drive Communication.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read-Only, 16-Bit Integer DPS/PMI Comm Status
2040	**Rail Port 0 Ch 0** Enter the code for the type of Rail I/O on each channel. Refer to section 3.1, "Rail I/O Port Registers", of Reliance Electric publication 3036, *Distributed Power System SF3000 Drive Configuration and Programming*.	Default: Min: Max: Type: File: Group:	0 0 65535 Linkable, Read-Write, 16-Bit Integer DPS/PMI Inputs & Outputs
2041	**Rail Port 0 Ch 1** Enter the code for the type of Rail I/O on each channel. Refer to section 3.1, "Rail I/O Port Registers", of Reliance Electric publication 3036, *Distributed Power System SF3000 Drive Configuration and Programming*.	Default: Min: Max: Type: File: Group:	0 0 65535 Linkable, Read-Write, 16-Bit Integer DPS/PMI Inputs & Outputs
2042	**Rail Port 0 Ch 2** Enter the code for the type of Rail I/O on each channel. Refer to section 3.1, "Rail I/O Port Registers", of Reliance Electric publication 3036, *Distributed Power System SF3000 Drive Configuration and Programming*.	Default: Min: Max: Type: File: Group:	0 0 65535 Linkable, Read-Write, 16-Bit Integer DPS/PMI Inputs & Outputs
2043	**Rail Port 0 Ch 3** Enter the code for the type of Rail I/O on each channel. Refer to section 3.1, "Rail I/O Port Registers", of Reliance Electric publication 3036, *Distributed Power System SF3000 Drive Configuration and Programming*.	Default: Min: Max: Type: File: Group:	0 0 65535 Linkable, Read-Write, 16-Bit Integer DPS/PMI Inputs & Outputs

No.	Name Description	Values		
2044	**Rail Port 0 Flt** Indicates faults associated with Rail I/O on the port.	Default:	0000 0000 0000 0000	
		Options	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bti 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15	Ch0 OvrRange Ch0 UndRange Ch1 OvrRange Ch1 UndRange Ch2 OvrRange Ch2 UndRange Ch3 OvrRange Ch3 UndRange Port NotCntd Bad ID Bad Chk Bits I/O NotRdy Reserved Reserved Reserved Reserved
		File: Group:	DPS/PMI Inputs & Outputs	
2045	**RailPrt 0FltCnt** Displays number of fault occurences at the port. Refer to section 3.1, "Rail I/O Port Registers", of Reliance Electric publication 3036, *Distributed Power System SF3000 Drive Configuration and Programming*.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read-Only, 16-Bit Integer DPS/PMI Inputs & Outputs	
2046	**Rail Port 1 Ch 0** Enter the code for the type of Rail I/O on each channel. Refer to section 3.1, "Rail I/O Port Registers", of Reliance Electric publication 3036, *Distributed Power System SF3000 Drive Configuration and Programming*.	Default: Min: Max: Type: File: Group:	0 0 65535 Linkable, Read-Write, 16-Bit Integer DPS/PMI Inputs & Outputs	
2047	**Rail Port 1 Ch 1** Enter the code for the type of Rail I/O on each channel. Refer to section 3.1, "Rail I/O Port Registers", of Reliance Electric publication 3036, *Distributed Power System SF3000 Drive Configuration and Programming*.	Default: Min: Max: Type: File: Group:	0 0 65535 Linkable, Read-Write, 16-Bit Integer DPS/PMI Inputs & Outputs	
2048	**Rail Port 1 Ch 2** Enter the code for the type of Rail I/O on each channel. Refer to section 3.1, "Rail I/O Port Registers", of Reliance Electric publication 3036, *Distributed Power System SF3000 Drive Configuration and Programming*.	Default: Min: Max: Type: File: Group:	0 0 65535 Linkable, Read-Write, 16-Bit Integer DPS/PMI Inputs & Outputs	
2049	**Rail Port 1 Ch 3** Enter the code for the type of Rail I/O on each channel. Refer to section 3.1, "Rail I/O Port Registers", of Reliance Electric publication 3036, *Distributed Power System SF3000 Drive Configuration and Programming*.	Default: Min: Max: Type: File: Group:	0 0 65535 Linkable, Read-Write, 16-Bit Integer DPS/PMI Inputs & Outputs	

No.	Name Description	Values		
2050	**Rail Port 1 Flt** Indicates faults associated with Rail I/O on the port.	Default:	0000 0000 0000 0000	
		Options	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bti 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15	Ch0 OvrRange Ch0 UndRange Ch1 OvrRange Ch1 UndRange Ch2 OvrRange Ch2 UndRange Ch3 OvrRange Ch3 UndRange Port NotCntd Bad ID Bad Chk Bits I/O NotRdy Reserved Reserved Reserved Reserved
		File: Group:	DPS/PMI Inputs & Outputs	
2051	**RailPrt 1FltCnt** Displays number of fault occurences at the port.	Default: Min: Max: Type: File: Group:	0 0 65535 Non-Linkable, Read-Only, 16-Bit Integer DPS/PMI Inputs & Outputs	

No.	Name Description	Values		
2080	**Meter Port1 Sel** Enter a value to configure the output of the meter port.	Default:	Val 0	Zero
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14 Val 15 Val 16 Val 17 Val 18 Val 19 Val 20 Val 21 Val 22 Val 23 Val 24 Val 25 Val 26 Val 27 Val 28	Zero 3Ph I Ref Ct 3Ph I FB Ct 3Ph I Fbk A 3Ph Voltage 3Ph Max Ang 3Ph Ang 3Ph Min Ang Fld I Ref Ct Fld I FB Ct Fld I FB A Fld Voltage Fld Max Ang Fld Ang Fld Min Ang Cntr EMF V AC Volts User An In Spd FB RPM App Data Rail Prt0 C0 Rail Prt0 C1 Rail Prt0 C2 Rail Prt0 C3 Rail Prt1 C0 Rail Prt1 C1 Rail Prt1 C2 Rail Prt1 C3 Reserved
		File: Group:	DPS/PMI Inputs & Outputs	
2081	**MeterP1 +10v Val** Enter the value of the source parameter that correponds to +10V dc output at the meter.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Linkable, Read-Write, 32-Bit Integer DPS/PMI Inputs & Outputs	
2082	**MeterP1 -10v Val** Enter the value of the source parameter that correponds to -10V dc output at the meter.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Linkable, Read-Write, 32-Bit Integer DPS/PMI Inputs & Outputs	

No.	Name Description	Values		
2083	**Meter Port2 Sel** Enter a value to configure the output of the meter port.	Default:	Val 0	Zero
		Options:	Val 0	Zero
			Val 1	3Ph I Ref Ct
			Val 2	3Ph I FB Ct
			Val 3	3Ph I Fbk A
			Val 4	3Ph Voltage
			Val 5	3Ph Max Ang
			Val 6	3Ph Ang
			Val 7	3Ph Min Ang
			Val 8	Fld I Ref Ct
			Val 9	Fld I FB Ct
			Val 10	Fld I FB A
			Val 11	Fld Voltage
			Val 12	Fld Max Ang
			Val 13	Fld Ang
			Val 14	Fld Min Ang
			Val 15	Cntr EMF V
			Val 16	AC Volts
			Val 17	User An In
			Val 18	Spd FB RPM
			Val 19	App Data
			Val 20	Rail Prt0 C0
			Val 21	Rail Prt0 C1
			Val 22	Rail Prt0 C2
			Val 23	Rail Prt0 C3
			Val 24	Rail Prt1 C0
			Val 25	Rail Prt1 C1
			Val 26	Rail Prt1 C2
			Val 27	Rail Prt1 C3
			Val 28	Reserved
		File: Group:	DPS/PMI Inputs & Outputs	
2084	**MeterP2 +10v Val** Enter the value of the source parameter that correponds to +10V dc output at the meter.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Linkable, Read-Write, 32-Bit Integer DPS/PMI Inputs & Outputs	
2085	**MeterP2 -10v Val** Enter the value of the source parameter that correponds to -10V dc output at the meter.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Linkable, Read-Write, 32-Bit Integer DPS/PMI Inputs & Outputs	

No.	Name Description	Values		
2086	**Meter Port3 Sel** Enter a value to configure the output of the meter port.	Default:	Val 0	Zero
		Options:	Val 0	Zero
			Val 1	3Ph I Ref Ct
			Val 2	3Ph I FB Ct
			Val 3	3Ph I Fbk A
			Val 4	3Ph Voltage
			Val 5	3Ph Max Ang
			Val 6	3Ph Ang
			Val 7	3Ph Min Ang
			Val 8	Fld I Ref Ct
			Val 9	Fld I FB Ct
			Val 10	Fld I FB A
			Val 11	Fld Voltage
			Val 12	Fld Max Ang
			Val 13	Fld Ang
			Val 14	Fld Min Ang
			Val 15	Cntr EMF V
			Val 16	AC Volts
			Val 17	User An In
			Val 18	Spd FB RPM
			Val 19	App Data
			Val 20	Rail Prt0 C0
			Val 21	Rail Prt0 C1
			Val 22	Rail Prt0 C2
			Val 23	Rail Prt0 C3
			Val 24	Rail Prt1 C0
			Val 25	Rail Prt1 C1
			Val 26	Rail Prt1 C2
			Val 27	Rail Prt1 C3
			Val 28	Reserved
		File: Group:	DPS/PMI Inputs & Outputs	
2087	**MeterP3 +10v Val** Enter the value of the source parameter that correponds to +10V dc output at the meter.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Linkable, Read-Write, 32-Bit Integer DPS/PMI Inputs & Outputs	
2088	**MeterP3 -10v Val** Enter the value of the source parameter that correponds to -10V dc output at the meter.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Linkable, Read-Write, 32-Bit Integer DPS/PMI Inputs & Outputs	

No.	Name Description	Values		
2089	**Meter Port4 Sel** Enter a value to configure the output of the meter port.	Default:	Val 0	Zero
		Options:	Val 0 Val 1 Val 2 Val 3 Val 4 Val 5 Val 6 Val 7 Val 8 Val 9 Val 10 Val 11 Val 12 Val 13 Val 14 Val 15 Val 16 Val 17 Val 18 Val 19 Val 20 Val 21 Val 22 Val 23 Val 24 Val 25 Val 26 Val 27 Val 28	Zero 3Ph I Ref Ct 3Ph I FB Ct 3Ph I Fbk A 3Ph Voltage 3Ph Max Ang 3Ph Ang 3Ph Min Ang Fld I Ref Ct Fld I FB Ct Fld I FB A Fld Voltage Fld Max Ang Fld Ang Fld Min Ang Cntr EMF V AC Volts User An In Spd FB RPM App Data Rail Prt0 C0 Rail Prt0 C1 Rail Prt0 C2 Rail Prt0 C3 Rail Prt1 C0 Rail Prt1 C1 Rail Prt1 C2 Rail Prt1 C3 Reserved
		File: Group:	DPS/PMI Inputs & Outputs	
2090	**MeterP4 +10v Val** Enter the value of the source parameter that correponds to +10V dc output at the meter.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Linkable, Read-Write, 32-Bit Integer DPS/PMI Inputs & Outputs	
2091	**MeterP4 -10v Val** Enter the value of the source parameter that correponds to -10V dc output at the meter.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Linkable, Read-Write, 32-Bit Integer DPS/PMI Inputs & Outputs	

No.	Name Description	Values		
2100	**Drive Ctrl Word** Displays the control word sent to the PMI processor. Parameter 166 [Motor Ctrl Cmmd] and the VPL sequencer determine the value of this parameter.	Default:	0000 0000 0000 0000	
		Options	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bti 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15	CMLoop Run 3Ph ID Tst 3Ph AlphaTst 3PhRAlph Tst FML Run Fld Id Tst Fld AlphaTst FldRAlph Tst Fault Reset Warng Reset Dsbl BrstFrg Dsbl Fld Wk Dsbl ShrtSCR Open Lop Cur Dsbl Opn SCR Reserved
		File: Group:	DPS/PMI Commands	
2102	**3Ph Test Angle** Enter the firing angle for the three-phase alpha test. Enter a value between 5 degrees (full on) and 180 degrees (full off). The drive module clamps any entry outside this range to be within the limits. Select forward and reverse tests by setting bit 26 [3Ph Alph Tst] or bit 28 [3PhRAlph Tst] of parameter 166 [Motor Ctrl Cmmd]. Enter the firing angle value before enabling the test. Attention: Uncontolled machine operation could result with motor connected during this test. This could cause bodily injury. Disconnect motor from drive before enabling test.	Units: Default: Min: Max: Type: File: Group:	Deg 180 5 180 Linkable, Read-Write, 16-Bit Integer DPS/PMI Commands	
2103	**3Ph Curr Ref** Displays the current reference for the three-phase current minor loop. A value of 4095 indicates maximum positive current - equal to the value of parameter 122 [Curr PosLim Actl]. A value of -4095 indicates a maximum negative current - equal to the value of parameter 121 [Curr NegLim Actl].	Default: Min: Max: Type: File: Group:	0 -4095 4095 Non-Linkable, Read-Only, 32-Bit Integer DPS/PMI Commands	
2104	**Field Test Angle** Enter the firing angle for the field alpha test. Enter a value between 5 degrees (full on) and 180 degrees (full off). The drive module clamps any entry outside this range to be within the limits. Select forward and reverse tests by setting bit 27 [Fld Alph Tst] or bit 29 [FldRAlph Tst] of parameter 166 [Motor Ctrl Cmmd]. Enter the firing angle value before enabling the test. Attention: Uncontolled machine operation could result with motor connected during this test. This could cause bodily injury. Disconnect motor from drive before enabling test.	Units: Default: Min: Max: Type: File: Group:	Deg 180 5 180 Linkable, Read-Write, 16-Bit Integer DPS/PMI Commands	
2105	**Field Curr Ref** Displays the current reference for the field current minor loop. A value of 4095 indicates hot field current - equal to the value of parameter 2185 [Hot Field Curr].	Default: Min: Max: Type: File: Group:	0 -4095 4095 Linkable, Read-Write, 32-Bit Integer DPS/PMI Commands	

No.	Name Description	Values		
2106	**PMI D/A Output** The value in the PMI D/A Output register is transmitted to the PMI Processor. The value can then be displayed on one of the four PMI Processor meter ports. This register can contain any variable in the system as long as it is a 16-bit integer. Floating point or double-integer values cannot be displayed on the PMI Processor's D/A meter ports.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Linkable, Read-Write, 32-Bit Integer DPS/PMI Commands	
2122	**MC Faults** Indicates Motor-Control faults. These bits latch when a Motor-Control fault event occurs. They stay latched until bit 19 [Clear Fault] of parameter 152 [Applied LogicCmd] or bit 19 [Clr Drv Wrn] of parameter 166 [Motor Ctrl Cmmd] is set. If the fault condition remains present, the identifying bit is set again.	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bti 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15 Bit 16 Bit 17 Bit 18 Bit 19 Bit 20 Bit 21 Bit 22 Bit 23 Bit 24 Bit 25 Bit 26 Bit 27 Bit 28 Bit 29 Bit 30 Bit 31	SCR Fault Reserved Reserved AC Line Sync InstOvr Curr Reserved Field Loss Reserved TachWire Opn ResolverCard Reserved PwrTech Card PMI Pwr Sply PMI Bus Reserved PMI CommLoss Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved
		File: Group:	Utility, DPS/PMI Diagnostics, Feedback	

No.	Name Description	Values		
2123	**MC Warnings** Indicates Motor-Control warnings. These bits latch when a Motor-Control warning event occurs. They stay latched until bit 19 [Clear Fault] of parameter 152 [Applied LogicCmd] or bit 19 [Clr Drv Wrn] of parameter 166 [Motor Ctrl Cmmd] is set. If the warning condition remains present, the identifying bit is set again.	Default:	0000 0000 0000 0000 0000 0000 0000 0000	
		Options	Bit 0	BrdgNotFirng
			Bit 1	Low AC Line
			Bit 2	Reserved
			Bit 3	LineSyncLoss
			Bit 4	Curr Ref Lim
			Bit 5	ID TestAbort
			Bit 6	Fld OvrCurr
			Bit 7	3Ph Fdbk Rev
			Bit 8	CT Fdbk Rev
			Bit 9	Reserved
			Bti 10	Reserved
			Bit 11	Reserved
			Bit 12	PMI Fan Loss
			Bit 13	Rail IO Comm
			Bit 14	PMI CommSync
			Bit 15	PMI Comm
			Bit 16	Reserved
			Bit 17	Reserved
			Bit 18	Reserved
			Bit 19	Reserved
			Bit 20	Reserved
			Bit 21	Reserved
			Bit 22	Reserved
			Bit 23	Reserved
			Bit 24	Reserved
			Bit 25	Reserved
			Bit 26	Reserved
			Bit 27	Reserved
			Bit 28	Reserved
			Bit 29	Reserved
			Bit 30	Reserved
			Bit 31	Reserved
		File: Group:	Utility, DPS/PMI Diagnostics, Feedback	

No.	Name Description	Values		
2124	**Pwr DeviceStatus** Indicates which SCR has shorted or not firing. If an SCR is shorted, bit 0 [SCR Fault] of parameter 2122 [MC Faults] will be set. If an SCR is not firing correctly, bit 0 [BrdgNotFirng] of parameter 2123 [MC Warnings]will be set. For a regenerative drive, this parameter indicates the pair of SCRs that has faulted. For a non-regenerative drive, this parameter indicates the specific SCR that has faulted. The bits of this parameters are set when a fault event is detected. They stay latched until bit 19 [Clear Fault] of parameter 152 [AppliedLogic Cmd] or bit 19 [Clr Drv Wrn] of parameter 166 [Motor Ctrl Cmmd] is set. If the fault event remains present, the identifying bit is set again.	Default:	0000 0000 0000 0000	
		Options	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bti 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15	SCR 1 Fault SCR 2 Fault SCR 3 Fault SCR 4 Fault SCR 5 Fault SCR 6 Fault SCR 11 Fault SCR 12 Fault SCR 13 Fault SCR 14 Fault SCR 15 Fault SCR 16 Fault Reserved Reserved Reserved Reserved
		File: Group:	Utility, DPS/PMI Diagnostics, Feedback	
2125	**Interlock Code** The PMI processor performs interlock tests in response to parameter 2100 [Drive Ctrl Word]. If any of the diagnostics fail the PMI processor sets the bit in parameter 2125 [Interlock Code] that corresponds to the first failed diagnostic. The bit stays latched until bit 19 [Clear Fault] of parameter 152 [Applied LogicCmd] or bit 19 [Clr Drv Wrn] of parameter 166 [Motor Ctrl CÌmd] is set. Refer to Reliance Electric publication S-3001-1, Distributed Power System SD3000 Drive Diagnostics, Troubleshooting and Start-Up Guidelines, for information about the interlock diagnostics.	Default:	0000 0000 0000 0000	
		Options	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bti 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15	Bad CML Req 3PhPrmNotLod 3PhGnsNotLod 3PhFlt RstRq RPI Missing Fld Not Rdy Fld NotAlwd M-Con NotCls Bad FML Req F Par NotLod F Gns NotLod F Flt Rst Rq Reserved Reserved F FB or Cfg Reserved
		File: Group:	Utility, DPS/PMI Diagnostics, Feedback	
2126	**AC Line Volt FB** Displays the measured AC RMS line voltage in volts.	Units: Default: Min: Max: Type: File: Group:	Volt 0 0 1000 Non-Linkable, Read-Only, Floating Point DPS/PMI Feedback	
2127	**3Ph Feedback** Displays measured three-phase current. A value of 4095 indicates maximum positive current - equal to the value of parameter 122 [Curr PosLim Actl]. A value of -4095 indicates a maximum negative current - equal to the value of parameter 121 [Curr NegLim Actl].	Default: Min: Max: Type: File: Group:	0 -4095 4095 Non-Linkable, Read-Only, 16-Bit Integer DPS/PMI Feedback	

No.	Name Description	Values	
2131	**FML Feedback** Displays measured field current. A value of 4095 indicates hot field current - equal to the value of parameter 2185 [Hot Field Curr].	Units: Default: Min: Max: Type: File: Group:	P.U. 0 -4095 4095 Non-Linkable, Read-Only, 16-Bit Integer DPS/PMI Feedback
2132	**Field Amps Fdbk** Displays measured field current in Amps x 10, (e.g., a value of 501 indicates 50.1A).	Units: Default: Min: Max: Type: File: Group:	Amps 0 -32768 32767 Non-Linkable, Read-Only, Floating Point DPS/PMI Feedback
2133	**Field Volt Fdbk** Displays the field voltage feedback value, in volts. This voltage is calculated based on the AC line voltage and field firing angle.	Units: Default: Min: Max: Type: File: Group:	Volt 0 -32768 32767 Non-Linkable, Read-Only, Floating Point DPS/PMI Feedback
2134	**User Anlg Input** Displays the measured user analog input value from the Resolver Feedback connector on the Resolver & Drive I/O module. This value may be accessed through the PMI meter ports.	Default: Min: Max: Type: File: Group:	0 -2048 2048 Non-Linkable, Read-Only, 16-Bit Integer DPS/PMI Feedback
2135	**Res Scan Posit** Displays the electrical position of the resolver (if used). This register is reset to zero at power-up.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Non-Linkable, Read-Only, 16-Bit Integer Speed/Posit Fdbk, DPS/PMI Resolver, Feedback
2136	**Res Strobe Posit** Displays the electrical position of the resolver at the time a strobe signal is detected.	Default: Min: Max: Type: File: Group:	0 -32768 32767 Non-Linkable, Read-Only, 16-Bit Integer DPS/PMI Feedback
2149	**NV Faults** Non Volatile storage location for internal module faults. Rockwell development personnel may use the value in this register to debug the module firmware.	Default: Min: Max: Type: File: Group:	0 0 4294967296 Non-Linkable, Read-Only, 32-Bit Integer DPS/PMI Feedback
2150	**CML Crossovr Frq** Enter a value to determine the response of the current minor loop. Higher values improve response. However, higher values may degrade stability.	Units: Default: Min: Max: Type: File: Group:	R/S 200 0 400 Linkable, Read-Write, 16-Bit Integer DPS/PMI Regulator Config

No.	Name Description	Values	
2151	**3Ph Resistance** Enter the continuous-conduction resistance of the three-phase field, in ohms.	Units: Default: Min: Max: Type: File: Group:	Ohms 0 0 327.67 Linkable, Read-Write, 16-Bit Integer DPS/PMI Regulator Config
2152	**3Ph TimeConstant** Enter the electric time constant (Te) of the motor or generator field, in mS x 10, (e.g., a value of 100 indicates a time constant of 10 mS). This is the ratio of field inductance to field resistance. If this value is not specified by the motor manufacturer, use the following formula: parameter 2152 [3Ph TimeConstant] = 10,000 x L / R; where L is the armature inductance in henries, and R is the hot armature resistance in ohms. The ID test will provide a value that takes into account the entire circuit (motor and motor leads), which may be different from a value from the motor manufacturer or the calculation.	Units: Default: Min: Max: Type: File: Group:	mSec 0 0 5000 Linkable, Read-Write, 16-Bit Integer DPS/PMI Regulator Config
2154	**FML Crossovr Frq** Enter a value to determine the response of the field regulation loop. Higher values improve response. However, higher values may degrade stability.	Units: Default: Min: Max: Type: File: Group:	R/S 15 0 75 Linkable, Read-Write, 16-Bit Integer DPS/PMI Regulator Config
2155	**Field Resistance** Enter the resistance of the field, in ohms.	Units: Default: Min: Max: Type: File: Group:	Ohms 0 0 3276.7 Linkable, Read-Write, 16-Bit Integer DPS/PMI Regulator Config
2156	**Fld TimeConstant** Enter the electric time constant (Tf) of the field, in S x 1,000, (e.g., a value of 100 indicates a time constant of 0.1S). This is the ratio of field inductance to field resistance. If this value is not specified by the motor manufacturer, use the following formula: parameter 2156 [Fld TimeConstant] = 10 x L / R; where L is the field inductance in henries, and R is the field resistance in ohms. The ID test will provide a value that takes into account the entire circuit (motor and motor leads), which may be different from a value from the motor manufacturer or the calculation.	Units: Default: Min: Max: Type: File: Group:	mSec 0 0 32767 Linkable, Read-Write, 16-Bit Integer DPS/PMI Regulator Config
2157	**SCR Diag Gain** Determines how fast error builds up in the Open SCR diagnostics. Increase the value if warnings need to be annunciated quickly. A value of 100 (the default) means the gain is 1 (100/100). A value of 500 (the maximum) means the gain is 5 time the error (500/100).	Default: Min: Max: Type: File: Group:	100 1 500 Linkable, Read-Write, 16-Bit Integer DPS/PMI Regulator Config

No.	Name Description	Values	
2158	**SCR Decay Rate** Determines how much error is retained from calculation to calculation. Decrease the value when nuisance warnings are occuring due to large cyclic loads.	Default: Min: Max: Type: File: Group:	99 1 99 Linkable, Read-Write, 16-Bit Integer DPS/PMI Regulator Config
2159	**SCR Deadband** Determines the amount of imbalance (in percent) ignored by Open SCR diagnostics, (e.g., when the value is 20, the diagnostics will ignore imbalances of less than 20%). Increasing the value reduces the sensitivity of the diagnostics - reducing nuisance warnings that may occur due to small imbalances between the SCRs.	Default: Min: Max: Type: File: Group:	10 0 50 Linkable, Read-Write, 16-Bit Integer DPS/PMI Regulator Config
2160	**SCR Trip Point** Determines the threshold of integrated error that cause a warning to be annunciated. Increasing the value reduces the sensitivity of the Open SCR diagnostics.	Default: Min: Max: Type: File: Group:	1500 1500 3000 Linkable, Read-Write, 16-Bit Integer DPS/PMI Regulator Config
2161	**Resolver Gain** The amount of gain used to compensate for varying lengths of resolver wiring. Set to zero to enable automatic calibration test on power-up. Values range from 0-255 counts, with 1 count representing .15 volts gain.	Default: Min: Max: Type: File: Group:	0 0 255 Linkable, Read-Write, 16-Bit Integer DPS/PMI Regulator Config
2162	**Resolver Balance** The amount of capacitance that is added to the sine or cosine channel of the resolver to compensate for varying lengths of resolver wiring. Set to zero to enable automatic calibration test on power-up. Values from 1 to 39 add capacitance to the cosine channel, while values from 41 to 79 add capacitance to the sine channel.	Default: Min: Max: Type: File: Group:	40 0 79 Linkable, Read-Write, 16-Bit Integer DPS/PMI Regulator Config
2180	**Motor NP RPM** Set to the motor nameplate rated RPM.	Units: Default: Min: Max: Type: File: Group:	RPM 1750 1 30000 Non-Linkable, Read-Write, 16-Bit Integer DPS/PMI Motor Data
2181	**Anlg Tach RPM** Set the overspeed trip point for overspeed detection in the PMI processor.	Units: Default: Min: Max: Type: File: Group:	RPM 2000 1 30000 Non-Linkable, Read-Write, 16-Bit Integer DPS/PMI Motor Data

No.	Name Description	Values	
2182	**3Ph Hot Fld Curr** Set to the 3Ph field current rating full load amps.	Units: Default: Min: Max: Type: File: Group:	Amps 1 1 3276.7 Non-Linkable, Read-Write, 16-Bit Integer DPS/PMI Motor Data
2184	**PMI Curr Lim** Provides positive and negative current limit values within the PMI processor. If this value is les than parameter 120[Current PosLimit] and the absolute value of parameter 119 [Current NegLimit], this value will set both the positive and negative actual current limits.	Units: Default: Min: Max: Type: File: Group:	% 100 100 400 Non-Linkable, Read-Write, 16-Bit Integer DPS/PMI Motor Data
2185	**Hot Field Curr** Set to the Hot Amps value on the motor nameplate.	Units: Default: Min: Max: Type: File: Group:	Amps 0.01 0.01 327.67 Non-Linkable, Read-Write, 16-Bit Integer DPS/PMI Motor Data
2186	**Min Field Curr** Set to the minimum amps value on the motor nameplate.	Units: Default: Min: Max: Type: File: Group:	Amps 0.01 0.01 99.99 Non-Linkable, Read-Write, 16-Bit Integer DPS/PMI Motor Data
2187	**Field Loss Amps** Set the under-current trip point for field loss detection in the PMI processor.	Units: Default: Min: Max: Type: File: Group:	Amps 0.01 0.01 99.99 Non-Linkable, Read-Write, 16-Bit Integer DPS/PMI Motor Data
2188	**Field Off Delay** Set the amount of time the field will remain energized after a fault condition. (1 to 300S)	Units: Default: Min: Max: Type: File: Group:	Sec 1 1 300 Non-Linkable, Read-Write, 16-Bit Integer DPS/PMI Motor Data

No.	Name Description	Values		
2200	**PMI Drive Config** Set bits to configure the PMI processor. • Bits 0-7 [PMI OS Sel] indicate the catalog number of the Drive Module (do not modify these settings). • Bit 8 [Arm Reg Used] enables control of the motor armature. • Bit 9 [re Bdge Usd] enables control of a regenerative armature bridge. • Bit 10 [S12 Config] enables twelve-pulse control. • Bit 11 [M-Cont Used] enables Drive Module control of the main contactor. • Bit 12 [Fld Reg Used] enables control of the motor field. • Bit 13 [4 quad fld] enables four-quadrant control of the motor field. • Bit 14 [3ph fld gene] is not used.	Default:	0000 0000 0000 0001	
		Options	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bti 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15	PMI OS Sel PMI OS Sel PMI OS Sel PMI OS Sel PMI OS Sel PMI OS Sel PMI OS Sel PMI OS Sel Arm Reg Used Rev Bdge Usd S12 Config Reserved Fld Reg Used 4 quad fld 3ph fld gene Reserved
		File: Group:	DPS/PMI Drive Config	
2201	**PMI I/O Config** Set bits to configure the rail I/O and speed feedback in the PMI processor. • Bits 0-3 [Prt 0 Config] form a nibble that configures the port 0 rail I/O • Bits 4-7 [Prt 1 Config] form a nibble that configures the port 1 rail I/O: 0 = no I/O, 1 = Digital I/O, 2 = 2 Channel Analog Input / 2 Channel Analog Output, 3 = 4 Channel Analog Output, 4 = 4 Channel Analog Input. • Bits 8-11 [Res Type] form a nibble that configures the resolver type: 0 = no resolver, 1 = 1 x resolver, 2 = 2 x resolver, 3 = 5 x resolver. • Bits 12-15 [SpdFdbk Type] form a nibble that configures the speed feedback type: 0 = no speed feedback, 1 = tachometer, 2 = resolver.	Default:	0000 0000 0000 0000	
		Options	Bit 0 Bit 1 Bit 2 Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bti 10 Bit 11 Bit 12 Bit 13 Bit 14 Bit 15	Prt 0 Config Prt 0 Config Prt 0 Config Prt 0 Config Prt 1 Config Prt 1 Config Prt 1 Config Prt 1 Config Res Type Res Type Res Type Res Type SpdFdbk Type SpdFdbk Type SpdFdbk Type SpdFdbk Type
		File: Group:	DPS/PMI Drive Config	
2202	**AC LineVolt(RMS)** Enter the nominal input voltage to the Armature Power Module. The PMI processor uses this value to determine the threshold (15% below this value) for indicating the low AC line voltage warning.	Units: Default: Min: Max: Type: File: Group:	Volt 230 10 32767 Non-Linkable, Read-Write, 16-Bit Integer DPS/PMI Drive Config	
2203	**Out Volt Rating** Enter the maximum output voltage the Power Module will produce.	Units: Default: Min: Max: Type: File: Group:	Volt 10 10 32767 Non-Linkable, Read-Write, 16-Bit Integer DPS/PMI Drive Config	

No.	Name Description	Values	
2204	**Out Curr Rating** Enter the Power Modules 100% output DC Amp rating.	Units: Default: Min: Max: Type: File: Group:	Amps 1 1 32767 Non-Linkable, Read-Write, 16-Bit Integer DPS/PMI Drive Config
2205	**Curr Xfmr Ratio** Defines the input to output ratio of the current transformer in the Power Module. This value can be found on the Power Module's nameplate.	Default: Min: Max: Type: File: Group:	1 1 32767 Non-Linkable, Read-Write, 16-Bit Integer DPS/PMI Drive Config
2206	**Field AC In Volt** Enter the nominal voltage at the Field Power Module input. If an isolation transformer is used, enter the secondary voltage.	Units: Default: Min: Max: Type: File: Group:	Volt 1 1 32767 Non-Linkable, Read-Write, 16-Bit Integer DPS/PMI Drive Config
2207	**Fld OutCurrRatng** Enter the Field Power Module's DC Amps output rating. This value can be found on the Power Module's nameplate.	Units: Default: Min: Max: Type: File: Group:	Amps 15 1 327.67 Non-Linkable, Read-Write, 16-Bit Integer DPS/PMI Drive Config
2208	**Anlg Tach Volts** Enter the tachometer voltage that will be present when the motor is turning at the speed specified in parameter 2181[Overspd Trip Pt].	Units: Default: Min: Max: Type: File: Group:	Volt 5 5 327.67 Non-Linkable, Read-Write, 16-Bit Integer DPS/PMI Drive Config

No.	Name Description	Values	
2209	**Ph Xfmr In Volt** The voltage at the primary of the phasing transformer, which produces 6.3V at the secondary. Typically this equals the value in parameter 2202 [AC LineVolt(RMS)].	Units: Default: Min: Max: Type: File: Group:	Volt 230 10 32767 Non-Linkable, Read-Write, 16-Bit Integer DPS/PMI Drive Config
2213	**Pwr Config Code** For internal use.	Default: Min: Max: Type: File: Group:	0 0 256 Non-Linkable, Read-Only, 16-Bit Integer DPS/PMI Drive Config
2214	**PMI OS Version** Indicates Operating System version for the PMI processor.	Default: Min: Max: Type: File: Group:	0 0 255 Non-Linkable, Read-Only, 16-Bit Integer DPS/PMI Drive Config

Parameter Cross Reference by Name

Name	No.
3Ph Amps Fdbk	2128
3Ph Curr Ref	2103
3Ph Feedback	2127
3Ph FieldCurrRef	305
3Ph Hot Fld Curr	2182
3Ph Resistance	2151
3Ph Test Angle	2102
3Ph TimeConstant	2152
3Ph Volt Fdbk	2129
AC Line Volt FB	2126
AC LineVolt(RMS)	2202
Alarm Status 1	326
Alarm Status 2	327
Anlg Tach Posit	241
Anlg Tach RPM	2181
Anlg Tach Spd FB	240
Anlg Tach Volts	2208
Applied LogicCmd	152
CML Crossovr Frq	2150
Curr Ref 1	111
Curr Ref 2	113
Curr Ref1 Div	112
Curr Ref2 Mult	114
Curr Xfmr Ratio	2205
Current Trim	115
DM Bad Msg Cnt	2011
DM Comm PortStat	2000
DM CRC Error Cnt	2002
DM Frmt ErrorCnt	2003
DM Good Msg Cnt	2001
DM Link Status	2008
DM Sync Count	2012
DM Sync WarngCnt	2010
DM Tx Msg Count	2009
DM Tx Time	2014
DM Tx Time Avail	2015
Drive Ctrl Word	2100
Drive I/O Ctrl	168
Drive I/O Status	169
Exception Event1	320
Exception Event2	321
Fault Status 1	323
Fault Status 2	324
Fault TP Data	330
Fault TP Sel	329
Field AC In Volt	2206
Field Amps Fdbk	2132
Field Curr Ref	2105
Field Loss Amps	2187
Field Off Delay	2188
Field Resistance	2155
Field Test Angle	2104
Field Volt Fdbk	2133
Fld OutCurrRatng	2207
Fld TimeConstant	2156
FML Crossovr Frq	2154
FML Feedback	2131
Hot Field Curr	2185
Integer In00	600
Integer In01	602
Integer In02	604
Integer In03	606
Integer In04	608
Integer In05	610
Integer In06	612
Integer In07	614
Integer In08	616
Integer In09	618
Integer In10	620
Integer In11	622
Integer In12	624
Integer In13	626
Integer In14	628
Integer In15	630
Integer Out00	632
Integer Out01	634
Integer Out02	636
Integer Out03	638
Integer Out04	640
Integer Out05	642
Integer Out06	644
Integer Out07	646
Integer Out08	648
Integer Out09	650
Integer Out10	652
Integer Out11	654
Integer Out12	656
Integer Out13	658
Integer Out14	660
Integer Out15	662
Interlock Code	2125
Lgx Closed Cnfg	384
Lgx Comm Format	664
Lgx CommLossData	386
Lgx LinkChngCnfg	385
Lgx OutOfRunCnfg	382
Lgx Timeout Cnfg	383
Logic Command	151
Logic Ctrl State	157
Logic State Mach	150
Logic Status	155

Name	No.
MC Faults	2122
MC Warnings	2123
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Interpretting Drive Module Faults in DriveExecutive

The Fault Words tab of the Fault and Alarm window of DriveExecutive allows you to view several parameters. These parameters have individual bits associated with faults or conditions. If the bit is 0, the fault is not present or the condition is false. If the bit is 1, the fault is present or the condition is true.

Parameter 323 [Fault Status 1]

This parameter indicates the occurance of exception events that have been configured as fault conditions. These events are from parameter 320 [Exception Event1]. These bits are latched until they are reset by setting bit 19 [Clear Fault] of parameter 152 [Applied LogicCmd]. After turning the Clear Fault bit on, the drive may be re-started after turning the command bits off and then back on again. If the fault conditions still exist, the identifying bit in this parameter will immediately be set again. The fault conditions reported in this register result in turning off the drive.

Bit	Fault Name	Fault Description
Bit 7	Slink HW	Not Used
Bit 8	Slink Comm	A SynchLink communication failure has occurred. These faults are enumerated in parameter 1229 [SL Error Status].
Bit 18	DSP Mem Err	Flash memory does not match the SRAM memory
Bit 19	DSP Err	The drive has failed to complete DSP (VPL) interrupt tasks in the allotted time.

Parameter 324 [Fault Status 2]

This parameter indicates the presence of certain drive anomolies that caused the drive to fault (stop). These are the same events shown in parameter 321 [Exception Event 2]. These bits are latched until they are reset by setting bit 19 [Clear Fault] of parameter 152 [Applied LogicCmd]. After turning the Clear Fault bit on, the drive may be re-started after turning the command bits off and then back on again. If the fault conditions still exist, the identifying bit in this parameter will immediately be set again. The fault conditions reported in this register result in turning off the drive.

Bit	Fault Name	Fault Description
7	Slink Mult	SynchLink Multiply failure has occurred. These faults are enumerated in parameter 1034 [SL Mult State].
26	Drv Fault	A motor control fault event has occurred. Motor control faults are enumerated in parmeter 2122 [MC Faults].
27	Drv Warning	A motor control warning event has occured. Motor control warnings are enumerated in parmeter 2123 [MC Warnings].
28	Lgx OutOfRun	The Logix Controller is out of the run mode
29	Lgx Timeout	Communications with the Logix Controller has timed out
30	Lgx Closed	The Logix Controller has closed a connection to the Drive Module
31	Lgx LinkChng	A required parameter link relating to a communications connection has been modified

Parameter 326 [Alarm Status 1]

This parameter indicates the occurance of exception events that have been configured as alarm conditions. These events are from parameter 320 [Exception Event1].

Bit	Fault Name	Fault Description
Bit 7	Slink HW	Not Used
Bit 8	Slink Comm	A SynchLink communication failure has occurred. These faults are enumerated in parameter 1229 [SL Error Status].
Bit 18	DSP Mem Err	Flash memory does not match the SRAM memory
Bit 19	DSP Err	The drive has failed to complete DSP (VPL) interrupt tasks in the allotted time.

Parameter 327 [Alarm Status 2]

This parameter indicates the occurance of exception events that have been configured as alarm conditions. These are the same events shown in parameter 321 [Exception Event 2].

Bit	Fault Name	Fault Description
7	Slink Mult	SynchLink Multiply failure has occurred. These faults are enumerated in parameter 1034 [SL Mult State].
26	Drv Fault	A motor control fault event has occurred. Motor control faults are enumerated in parmeter 2122 [MC Faults].
27	Drv Warning	A motor control warning event has occured. Motor control warnings are enumerated in parmeter 2123 [MC Warnings].
28	Lgx OutOfRun	The Logix Controller is out of the run mode
29	Lgx Timeout	Communications with the Logix Controller has timed out
30	Lgx Closed	The Logix Controller has closed a connection to the Drive Module
31	Lgx LinkChng	A required parameter link relating to a communications connection has been modified

Parameter 1229 [SL Error Status]

This parameter indicates the occurance of SynchLink errors.

Bit	Fault Name	Fault Description
0	Sync Loss	SynchLink communication has failed, after it had been established.
1	Rx Loss	The receive port is not receiving data, and the receive port configuration is set to receive data.
2	Many BOF Err	The number of BOF (Beginning Of Frame) errors accumulated in parameter 1232 [SL BOF Err Accum] exceeds the value in parameter 1235 [SL BOF Err Limit].
3	Many CRC Err	The number of CRC (Cycling Ring Checksum) errors accumulated in parameter 1230 [SL CRC Err Accum] exceeds the value in parameter 1234 [SL CRC Err Limit].
4	Pckg Msg Err	The received package sequence number has not matched for 1.0 S.
5	CommForm Err	The format of received data does not match the configuration of the receive port.
6	Sys Rev Err	The system revision in received data does not match the value of parameter 1001 [SynchLink Rev].
7	Mult TKeeper	More than one node on the SynchLink system is configured as a Time Keeper.

Parameter 2044 [Rail Port 0 Faults]

This parameter indicates the occurance of faults associtated with Rail I/O on Port 0.

Bit	Fault Name	Fault Description
0	Ch0 OvrRange	Analog input on channel 0 is over the maximum value.(1)
1	Ch0 UndRange	Analog input on channel 0 is under the minimum value.(2)
2	Ch1 OvrRange	Analog input on channel 1 is over the maximum value.(1)
3	Ch1 UndRange	Analog input on channel 1 is under the minimum value.(2)
4	Ch2 OvrRange	Analog input on channel 2 is over the maximum value.(1)
5	Ch2 UndRange	Analog input on channel 2 is under the minimum value.(2)
6	Ch3 OvrRange	Analog input on channel 3 is over the maximum value.(1)
7	Ch3 UndRange	Analog input on channel 3 is under the minimum value.(2)
8	Port NotCntd	No device is connected to the port, which is configured to accept a device.
9	Bad ID	A device other than a rail is plugged into the port.
10	Bad Chk Bits	Bad rail communication check bits have been received.
11	IO NotRdy	The I/O interface is not ready.

(1) Analog 4 input 4-20 mA (model number 61C345) maximum value = 22.1 mA
Analog 4 input 0-10V (model number 61C346) maximum value = 11.3V
Analog 2 input / 2 ouput 4-20 mA (model number 61C345) maximum value = 22.6 mA
Analog 2 input / 2 ouput 0-10V (model number 61C346) maximum value = 11.3V

(2) Analog 4 input 4-20 mA (model number 61C345) minimum value = 2.4 mA
Analog 4 input 0-10V (model number 61C346) minimum value = -1.0V
Analog 2 input / 2 ouput 4-20 mA (model number 61C345) minimum value = 2.5 mA
Analog 2 input / 2 ouput 0-10V (model number 61C346) minimum value = -1.0V

Parameter 2050 [Rail Port 1 Faults]

This parameter indicates the occurance of faults associtated with Rail I/O on Port 1.

Bit	Fault Name	Fault Description
0	Ch0 OvrRange	Analog input on channel 0 is over the maximum value.(1)
1	Ch0 UndRange	Analog input on channel 0 is under the minimum value.(2)
2	Ch1 OvrRange	Analog input on channel 1 is over the maximum value.(1)
3	Ch1 UndRange	Analog input on channel 1 is under the minimum value.(2)
4	Ch2 OvrRange	Analog input on channel 2 is over the maximum value.(1)
5	Ch2 UndRange	Analog input on channel 2 is under the minimum value.(2)
6	Ch3 OvrRange	Analog input on channel 3 is over the maximum value.(1)
7	Ch3 UndRange	Analog input on channel 3 is under the minimum value.(2)
8	Port NotCntd	No device is connected to the port, which is configured to accept a device.
9	Bad ID	A device other than a rail is plugged into the port.
10	Bad Chk Bits	Bad rail communication check bits have been received.
11	IO NotRdy	The I/O interface is not ready.

(1) Analog 4 input 4-20 mA (model number 61C345) maximum value = 22.1 mA
Analog 4 input 0-10V (model number 61C346) maximum value = 11.3V
Analog 2 input / 2 ouput 4-20 mA (model number 61C345) maximum value = 22.6 mA
Analog 2 input / 2 ouput 0-10V (model number 61C346) maximum value = 11.3V

(2) Analog 4 input 4-20 mA (model number 61C345) minimum value = 2.4 mA
Analog 4 input 0-10V (model number 61C346) minimum value = -1.0V
Analog 2 input / 2 ouput 4-20 mA (model number 61C345) minimum value = 2.5 mA
Analog 2 input / 2 ouput 0-10V (model number 61C346) minimum value = -1.0V

Parameter 2122 [MC Faults]

This parameter indicates the occurance of a motor-control fault. These bits are set when a fault event is detected. They stay latched until bit 19 [Clear Fault] of parameter 152 [Applied Logic Cmd] or bit 19 [Clr Drv Wrn] of parameter 166 [Motor Ctrl Cmd] is set. If the fault event remains present, the identifying bit is set again.

Bit	Fault Name	Fault Description
0	SCR Fault	An SCR has shorted. Check Parameter 2124 [Pwr DeviceStatus] to determine which SCR has shorted.
3	AC Line Sync	AC line voltage has been missing for more than 2 seconds. Refer to parameter 2123 bit 3 [LineSyncLoss].
4	InstOvr Curr	Armature current feedback has exceeded 175% of the value in parameter 2184 [PMI Curr Lim].
6	Field Loss	A field loss has been detected: • Parameter 2132 [Fld Amps Fdbk] has been less than parameter 2187 [FldLos Trip Pt] for more than 5 times the electrical time constant of the field. This assumes parameter 152 [Applied LogicCmd] bit 30 [Field En] is on. • Parameter 2132 [Fld Amps Fdbk] has been less than parameter 2187 [FldLos Trip Pt] for more than 30mS after the field has been turned on. - • Parameter 2132 [Fld Amps Fdbk] has been greater than 150% of parameter 2185 [Hot Fld Cur] for more than 30mS. • Parameter 2132 [Fld Amps Fdbk] has been greater than parameter 2207 [Fld PMI Rating] for more than 30mS.
8	TachWire Opn	A sine or cosine signal being used for speed or other application feedback is missing, due to one of the following causes: • a resolver wiring connection has broken • The value in parameter 2161 [Resolver Gain] is too low. The Drive Module always performs this test if resolver feedback is selected (parameter 222 [Motor Fdbk Sel] equals “0 - Resolver”), and when parameter 168 [Drive I/O Ctrl] bit 10 [Dis Brkn Wire] equals one.
9	ResolverCard	A fuse on the Resolver & Drive I/O module has blown.
11	PwrTech Card	The watchdog timer on the D-C Power Technology module has expired. This fault disables the gate firing circuitry.

Bit	Fault Name	Fault Description
12	PMI Pwr Sply	The PMI power supply is not working correctly.
13	PMI Bus	There is a bus fault in the PMI rack. This is indicated when the Resolver and Drive I/O module and the DC Power Technology module do not respond to requests from the PMI Processor. This error indicates that there is a hardware problem in the rack.
15	PMI CommLoss	Communication between the PMI processor and the Drive Module has failed.

Parameter 2123 [MC Warnings]

This parameter indicates the occurance of a motor-control warning event. These bits are set when a warning event is detected. They stay latched until bit 19 [Clear Fault] of parameter 152 [Applied Logic Cmd] or bit 19 [Clr Drv Wrn] of parameter 166 [Motor Ctrl Cmd] is set. If the warning event remains present, the identifying bit is set again. Refer to parameter 381 [PMI Warning Cnfg] to configure the Drive Module's response to these warnings.

Bit	Fault Name	Fault Description
0	BrdgNotFirng	Not all SCRs are carrying the same the load. A bit set in the parameter 2124 [Pwr DeviceStatus] indicates which SCR is not working properly.
1	Low AC Line	AC line voltage is less than 85% of its nominal value, which was entered as a configuration parameter. This can be caused by a low-line condition or a missing phase. The system will automatically adjust the phase angle to give the correct current amount and will continue to fire SCRs as long as zero crossings are detected. If zero crossings are no longer detected, a fault condition will result.
3	LineSyncLoss	The system is continuing to operate through a temporary loss of AC line voltage. Refer to bit 3 [AC Line Sync] of parameter 2122 [MC Fault].
4	Curr Ref Lim	The current reference has exceeded the value entered in parameter 2184 [PMI Curr Lim].
5	ID TestAbort	The drive has failed an armature identification test, field identification test or resolver balance calibration test.
6	Fld OvrCurr	Field current has exceeded 150% of the value in parameter 2185 [Hot Field Curr].
7	3Ph Fdbk Rev	Three-phase feedback wiring is reversed - the polarity of the feedback is the oposite of expected.
8	CT Fdbk Rev	Current transformer feedback is reversed - the polarity of the feedback is the oposite of expected.

Bit	Fault Name	Fault Description
12	PMI Fan Loss	Airflow through the PMI rack is not being sensed. A solid-state airflow switch in the PMI power supply monitors airflow.
13	Rail IO Comm	A rail communication warning event has occurred. Parameter 2044 [Rail Port 0 Faul] and parameter 2050 [Rail Port 0 Faul] enumerate these faults.
14	PMI CommSync	The PMI Processor and the Drive Module are momentarily not synchronized.
15	PMI Comm	A fiber-optic communication error has been detected between the PMI Processor module and the Drive Module. Communication errors in two consecutive messages will cause a fault.

Parameter 2124 [Pwr Device Status]

The bits of this parameter indicate which SCR has shorted or not firing. If an SCR is shorted parameter 2122 [MC Faults] bit 0 [SCR Fault] will be set. If an SCR is not firing correctly parameter 2123 [MC Warnings] bit 0 [BrdgNotFirng]will be set.

For a regenerative drive, this parameter indicates the pair of SCRs that has faulted. For a non-regenerative drive, this parameter indicates the specific SCR that has faulted.

The bits of this parameters are set when a fault event is detected. They stay latched until bit 19 [Clear Fault] of parameter 152 [Applied Logic Cmd] or bit 19 [Clr Drv Wrn] of parameter 166 [Motor Ctrl Cmd] is set. If the fault event remains present, the identifying bit is set again.

Bit	Fault Name	Fault Description
0	SCR 1 Fault	SCR 1 Fault (Forward Bridge)
1	SCR 2 Fault	SCR 2 Fault (Forward Bridge)
3	SCR 3 Fault	SCR 3 Fault (Forward Bridge)
4	SCR 4 Fault	SCR 4 Fault (Forward Bridge)
5	SCR 5 Fault	SCR 5 Fault (Forward Bridge)
6	SCR 6 Fault	SCR 6 Fault (Forward Bridge)
7	SCR 11 Fault	SCR 11 Fault (Reverse Bridge)
8	SCR 12 Fault	SCR 12 Fault (Reverse Bridge)
9	SCR 13 Fault	SCR 13 Fault (Reverse Bridge)

Bit	Fault Name	Fault Description
10	SCR 14 Fault	SCR 14 Fault (Reverse Bridge)
11	SCR 15 Fault	SCR 15 Fault (Reverse Bridge)
12	SCR 16 Fault	SCR 16 Fault (Reverse Bridge)

Parameter 2125 [Interlock Code]

The PMI processor performs interlock tests in response to parameter 2100 [Drive Ctrl Word]. If any of the diagnostics fail the PMI processor sets the bit in parameter 2125 [Interlock Code] that corresponds to the first failed diagnostic. The bit stays latched until bit 19 [Clear Fault] of parameter 152 [Applied Logic Cmd] or bit 19 [Clr Drv Wrn] of parameter 166 [Motor Ctrl Cmd] is set. Refer to Reliance Electric publication S-3001-1, *Distributed Power System SD3000 Drive Diagnostics, Troubleshooting and Start-Up Guidelines*, for information about the interlock diagnostics.

Bit	Fault Name	Fault Description
0	Bad CML Req	More than one incompatible CML operating mode has been requested at a time in parameter 166 [Motor Ctrl Cmmd]. The following operating modes are mutually exclusive: • Armature Alpha Test • Armature Identification Test • CML Run This bit is also set if you have attempted to restart the drive without resetting the appropriate command bits from parameter 166. Note that the bits in register 166 are edge-sensitive.
1	3PhPrmNotLod	Three-phase configuration parameters have not been downloaded into the PMI module from the Drive Module
2	3PhGnsNotLod	Three-phase configuration parameters have not been downloaded into the PMI module from the Dive Module.
3	3PhFltRstRq	The CML Faults Need to be Reset bit is set if previous armature faults (parameter 2122 [MC Faults]) have not been cleared.
4	RPI Missing	The run permissive input on the Resolver & Drive I/O module is not on.
5	Fld Not Rdy	The single-phase field is not on. Note that the CML can-not be executed if the field is not on.
6	Fld NotAlwd	The single-phase field has been requested when the armature identification test or the armature alpha test is running.
7	M-Con NotCls	The M-Contactor did not close at the expected time.

Bit	Fault Name	Fault Description
8	Bad FML Req	More than one incompatible Field operating mode is requested at a time in parameter 166 [Motor Ctrl Cmmd]. The following operating modes are mutually exclusive: • Field Alpha Test • Field Identification Test • Field Run This bit is also set if you have attempted to restart the drive without resetting the appropriate command bits from parameter 166. Note that the bits in register 166 are edge-sensitive.
9	F Par NotLod	Field configuration parameters have not been downloaded into the PMI module from the Dive Module.
10	F Gns NotLod	Field configuration parameters have not been downloaded into the PMI module from the Dive Module.
11	F Flt Rst Rq	Previous field faults (parameter 2122 [MC Faults]), e.g., field loss and line synchronization loss faults, have not been cleared.
14	F FB or CFG	A field current feedback fault or configuration error has occured: • The drive has sensed field current feedback when the field is off. • You have attempted to turn on the field without setting parameter 2200 [PMI Drive Config] bit 12 [Fld Reg Used].

Numerics

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