

PowerFlex 700S High Performance AC Drive - Phase II Control

Firmware Versions 1.xxx...5.002



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 [SGL-1.1](#) available from your local Rockwell Automation sales office or online at <http://www.rockwellautomation.com/literature/>) 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, when necessary, 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. Attentions help you identify a hazard, avoid a hazard, and recognize the consequence



SHOCK HAZARD: Labels may be on or inside the equipment, for example, a drive or motor, to alert people that dangerous voltage may be present.



BURN HAZARD: Labels may be on or inside the equipment, for example, a drive or motor, to alert people that surfaces may reach dangerous temperatures.

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

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New and Updated Information

This table contains the changes made to this revision.

Topic	Page
Value 11 "Sleep Mode" was added to parameter 150 [Logic State Mach] for firmware version 5.002.	45
Bits 21 "Sleep Stop" and 22 "Sleep Config" were added to parameter 156 [Start Inhibits] for firmware version 5.002.	48
Value 8 "Sleep Config" was added to parameter 159 [DigIn ConfigStat] for firmware version 5.002.	49
Bits 24 "Drv Waking" and 27 "RideThruAlrm" added to parameter 328 [Alarm Status 3] for firmware version 5.002.	73
Bit 2 "VltFdbkReCal" added to parameter 510 [FVC Mode Config] for firmware version 5.002.	97
Bit 0 "PM Cogging" added to parameter 512 [PMag Mode Config] for firmware version 5.002.	97

The following parameters were added for firmware version 5.002

Parameter No. / Name	Page	Parameter No. / Name	Page
278 [Sleep-Wake Mode]	66	534 [Nth CompOff Freq]	100
279 [Sleep-Wake Ref]	66	535 [Mth CompOff Freq]	100
280 [Wake Level]	66	594 [Nth Torq Compen]	106
281 [Wake Time]	66	595 [Nth Amplitude]	106
282 [Sleep Level]	66	596 [Nth Phase Shift]	106
283 [Sleep Time]	66	597 [Mth Torq Compen]	106
284 [Sleep Control]	67	598 [Mth Amplitude]	106
		599 [Mth Phase Shift]	106

A new alarm "Drv Waking" (89) was added to the Fault/Alarm Descriptions table.	157
Added a description of the new Sleep-Wake mode function to Appendix B - Application Notes.	184

This table contains the changes made to the first release of the *PowerFlex 700S High Performance AC Drive - Phase II Control Programming Manual*, publication 20D-PM001. This publication supersedes the *PowerFlex 700S High Performance AC Drive - Phase II Control User Manual*, publication 20D-UM006.

Topic	Page
Added new MPM-series permanent magnet motor specifications.	215

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Introduction

Purpose of This Manual

The purpose of this manual is to provide you with the information needed to start-up, program and troubleshoot PowerFlex 700S Phase II Adjustable Frequency AC drives.

For information on ...	See page ...
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Who Should Use This Manual

This manual is intended for qualified personnel. You must be able to program and operate Adjustable Frequency AC drives. In addition, you must have an understanding of the parameter settings and functions of this drive and programmable controllers for PowerFlex 700S Phase II drives with DriveLogix.

Recommended Documentation

All the recommended documentation listed in this section is available online at www.rockwellautomation.com/literature.

The following publications provide general drive information:

Title	Publication
Wiring and Grounding for Pulse Width Modulated (PWM) AC Drives	DRIVES-IN001
Safety Guidelines for the Application, Installation and Maintenance of Solid State Control	SGI-1.1
A Global Reference Guide for Reading Schematic Diagrams	100-2.10
Guarding Against Electrostatic Damage	8000-4.5.2

The following publications provide detailed PowerFlex 700S Phase II drive information:

Title	Publication
PowerFlex 700S Phase II Drive, Frames 1...6 Installation Instructions	20D-IN024
PowerFlex 700H and 700S Drives, Frames 9...14 Installation Instructions	PFLEX-IN006
PowerFlex 700S Phase II Reference Manual	PFLEX-RM003

The following publications provide specific PowerFlex 700S drive features information:

Title	Publication
Stegmann Feedback Option for PowerFlex 700S Drives Installation Instructions	20D-IN001
Resolver Feedback Option for PowerFlex 700S Drives Installation Instructions	20D-IN002
Multi-Device Interface for PowerFlex 700S Drives Installation Instructions	20D-IN004
Second Encoder Option for PowerFlex 700S Drives with Phase II Control Installation Instructions	20D-IN009
SynchLink™ Board for PowerFlex 700S Drives with Phase II Control Installation Instructions	20D-IN010
PowerFlex 700S Drives and DriveLogix Firmware Release Notes	20D-RN007

The following publications provide necessary information when applying the DriveLogix Controller:

Title	Publication
DriveLogix5730 Controller User Manual	20D-UM003
PowerFlex 700S Drive and DriveLogix Controller Firmware Release Notes	20D-RN007
Logix5000 Controllers Common Procedures Programming Manual	1756-PM001
Logix5000 Controllers General Instructions Reference Manual	1756-RM003
Logix5000 Controllers Process Control and Drives Instructions Reference Manual	1756-RM006
RSLogix 5000 Getting Results	9399-RLD300GR

The following publications provide information that is useful when planning and installing communication networks:

Title	Publication
ControlNet Coax Tap Installation Instructions	1786-5.7
ControlNet Cable System Planning and Installation Manual	1786-6.2.1
ControlNet Fiber Media Planning and Installation Guide	CNET-IN001
SynchLink System Design Guide	1756-TD008

Obtaining Manuals

To order paper copies of technical documentation, contact your local Rockwell Automation distributor or sales representative.

To find your local Rockwell Automation distributor, visit www.rockwellautomation.com/locations

Manual Conventions

In this manual we refer to the PowerFlex 700S Adjustable Frequency AC drive as: drive, PowerFlex 700S, PowerFlex 700S drive or PowerFlex 700S AC drive.

To help differentiate parameter names and LCD display text from other text, the following conventions will be used:

- Parameter Names will appear in [brackets] after the Parameter Number.
For example: Par 307 [Output Voltage].
- Display text will appear in “quotes.” For example: “Enabled.”

The following words are used throughout the manual to describe an action:

Word	Meaning
Can	Possible, able to do something
Cannot	Not possible, not able to do something
May	Permitted, allowed
Must	Unavoidable, you must do this
Shall	Required and necessary
Should	Recommended
Should Not	Not recommended

General Precautions

Qualified Personnel



ATTENTION: Only qualified personnel familiar with the PowerFlex 700S Drive and associated machinery should plan or implement the installation, start-up and subsequent maintenance of the system. Failure to comply may result in personal injury and/or equipment damage.

Personal Safety



ATTENTION: To avoid an electric shock hazard, verify that the voltage on the bus capacitors has discharged before performing any work on the drive. Measure the DC bus voltage at the Power Terminal Block by measuring between the +DC and –DC terminals, between the +DC terminal and the chassis, and between the -DC terminal and the chassis. The voltage must be zero for all three measurements.



ATTENTION: Hazard of personal injury or equipment damage exists when using bipolar input sources. Noise and drift in sensitive input circuits can cause unpredictable changes in motor speed and direction. Use speed command parameters to help reduce input source sensitivity.



ATTENTION: Risk of injury or equipment damage exists. DPI or SCANport host products must not be directly connected together via 1202 cables. Unpredictable behavior can result if two or more devices are connected in this manner.



ATTENTION: Risk of injury or equipment damage exists. Parameters 365 [Fdbk LsCnfg Pri]...394 [VoltFdbkLossCnfg] let you determine the action of the drive in response to operating anomalies. Precautions should be taken to ensure that the settings of the parameters do not create hazards of injury or equipment damage.



ATTENTION: Risk of injury or equipment damage exists. Parameters 383 [SL CommLoss Data]...392 [NetLoss DPI Cnfg] let you determine the action of the drive if communications are disrupted. You can set the parameters so that the drive continues to run. Precautions should be taken to ensure that the settings of the parameters do not create hazards of injury or equipment damage.

Product Safety



ATTENTION: An incorrectly applied or installed drive can result in component damage or a reduction in product life. Wiring or application errors such as under sizing the motor, incorrect or inadequate AC supply, or excessive surrounding air temperatures may result in malfunction of the system.



ATTENTION: This drive contains ESD (Electrostatic Discharge) sensitive parts and assemblies. Static control precautions are required when installing, testing, servicing or repairing drive assemblies. Component damage may result if ESD control procedures are not followed. If you are not familiar with static control procedures, reference Guarding Against Electrostatic Damage, publication 8000-4.5.2 or any other applicable ESD protection handbook.



ATTENTION: A contactor or other device that routinely disconnects and reapplies the AC line to the drive to start and stop the motor can cause drive hardware damage. The drive is designed to use control input signals that will start and stop the motor. If an input device is used, operation must not exceed one cycle per minute or drive damage will occur.

Class 1 LED Product



ATTENTION: Hazard of permanent eye damage exists when using optical transmission equipment. This product emits intense light and invisible radiation. Do not look into module ports or fiber optic cable connectors.

Notes:

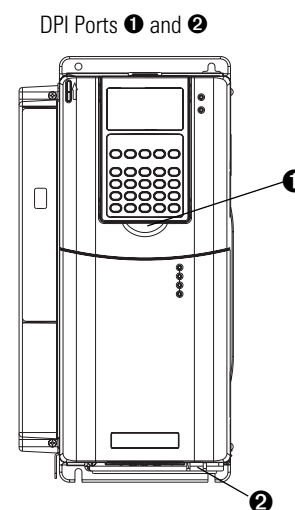
Drive Start-Up

This chapter provides the information necessary to start up the PowerFlex 700S Phase II drive.

For Information on ...	See Page ...
Drive Start-Up Checklist	Below
Prepare for Initial Drive Start-Up	16
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Drive Start-Up Checklist

- ☐ A **Human Interface Module (HIM)** is **required** to complete this Start-Up procedure, which uses the **Assisted Start** routine. The Assisted Start routine prompts you for information that is needed to start up a drive for most applications, such as line and motor data, commonly adjusted parameters and I/O settings. The Assisted Start routine also performs autotuning procedures. See [Figure 1 on page 18](#) for a flow chart of the Assisted Start routine.
- ☐ A **HIM must be installed** in Drive Peripheral Interface (DPI) Port 1 or 2. If a HIM is not installed, a remote device should be used to start-up the drive. Refer to [HIM Overview on page 165](#) for more information on using the PowerFlex 7-Class (DPI) HIM. Refer to the *Enhanced PowerFlex 7-Class HIM User Manual*, publication 20HIM-UM001, for information on using the Enhanced HIM (if installed).
- ☐ **3-wire control** is the default (and recommended) mode of use for the Assisted Start routine. In this case, the drive will start when the HIM “Start” key is pressed and stop when the HIM “Stop” key is pressed. If the drive is configured for 2-wire control, the HIM installed on the drive will also act as a 2-wire device. In 2-wire mode, the drive will start when the HIM “Start” key is pressed and stop when the HIM “Start” key is released.
- ☐ **Analog and Digital I/O** parameter values may be modified when using the Assisted Start routine.



IMPORTANT If you have a DriveLogix™ application, you must first connect the battery before starting this section. Refer to the *DriveLogix™ 5730 Controller for PowerFlex 700S Drives with Phase II Control*, publication 20D-UM003, for details.

Prepare for Initial Drive Start-Up



ATTENTION: Power must be applied to the drive to perform the following start-up procedure. Some of the voltages present are at incoming line potential. To avoid electric shock hazard or damage to equipment, only qualified service personnel should perform the following procedure. Thoroughly read and understand the procedure before beginning.

1. Confirm that all inputs are connected to the correct terminals and are secure.
2. Verify that AC line power at the disconnect device is within the rated value of the drive.
3. Verify that control power voltage is correct.
4. Apply AC power and control voltages to the drive. The drive and HIM will power up.

IMPORTANT When power is first applied, the HIM may require approximately five seconds until commands are recognized (including the Stop key).

- If the STS (status) LED is NOT flashing green, refer to [Status Indicators on page 151](#) for more information.
 - If any digital input is configured to “Stop - CF” (CF=Clear Faults) or “Enable”, verify that signals are present or the drive will not start. See [Table 1 on page 19](#) for other causes of a start inhibit.
5. When prompted on the HIM, select a display language and press Enter ().

The **PowerFlex 700S Start-Up** screen displays for drives that have not been previously configured.

TIP If the Assisted Start routine has already been accessed and started, you can return to and continue with the Start-Up routine. See [Access the Start-Up Routine on page 167](#) for more information.

Start Up the Drive

6. Press Enter () on the HIM.

The Assisted Start routine will prompt you for the required information needed to start-up the drive and complete the autotuning procedures. See [Figure 1 on page 18](#) for a flow chart of the Assisted Start routine.

Note: When starting up some high impedance motor applications, the “Power Circuit Test” may fail. If this test fails, the HIM displays the following fault description text:

- Power Circuit Diagnostic Test Detected Error: XX_XX no gate, open circuit, bad I sensor, press Enter.

If this failure occurs, do the following:

- Verify the connections between the motor and the drive; make sure that a disconnect device or contactor is not interfering with the signal.
 - Press Enter to continue and perform the Direction Test. If the Direction Test is successful, continue with the Start-Up routine - ignoring the failure. If the Direction Test fails, check for an open connection or bad current sensor.
7. When the Assisted Start routine is finished and **Done/Exit** displays on the HIM, press Enter () to save any changed and/or updated data.

IMPORTANT	Always exit the Assisted Start routine before cycling power to the drive.
------------------	---

Figure 1 - PowerFlex 700S Assisted Start Routine Flow Chart

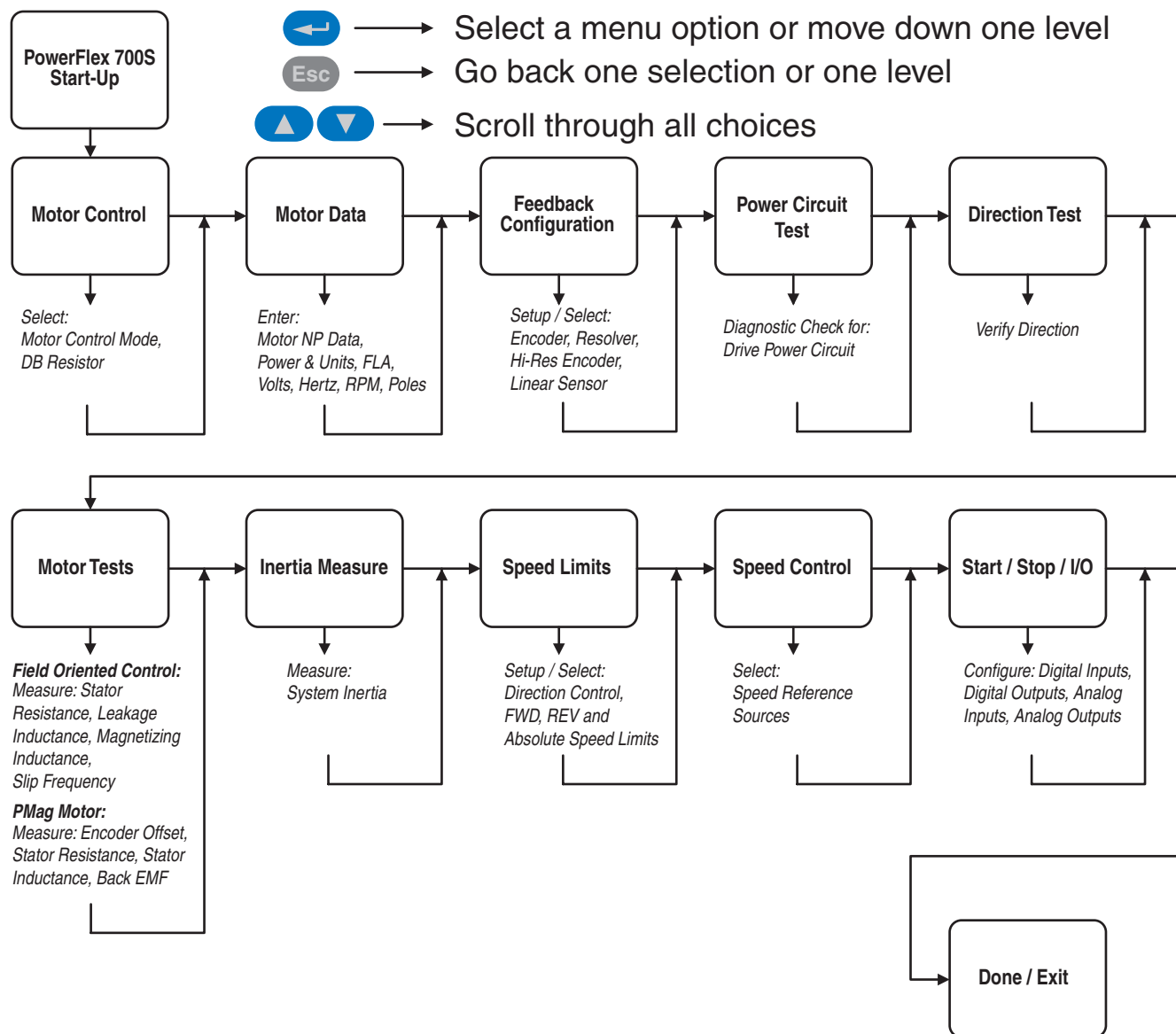


Table 1 - Common Causes of a Start Inhibit

Examine Parameter 156 [Start Inhibits]		
Bit	Description	Action
1	No power is present at the Enable Terminal; TB2-16	Apply the enable
2, 3, 4	A stop command is being issued	Close all stop inputs
5	Power loss event is in progress, indicating a loss of the AC input voltage	Restore AC power
6	Data supplied by the power structure EEPROM is invalid or corrupt	Cycle the power - if problem persists, replace the power structure
7	Flash Update in Progress	Complete Flash Procedures
8	Drive is expecting a Start Edge and is receiving a continuous signal	Open all start buttons and remove all start commands
9	Drive is expecting a Jog Edge and is receiving a continuous signal	Open all jog buttons and remove all jog commands
10	A conflict exists between the Encoder PPR programming (Par 232 or 242) and the encoder configuration for edge counts (Par 233, bits 4 & 5)	Verify encoder data and reprogram
11	The drive cannot precharge because a precharge input is programmed and no signal is present	Reprogram the input or close the precharge control contact
12	Digital Configuration	Start input configured but stop not configured
		Run input configured but control options do not match
		Start input configured but control options do not match
		Multiple inputs configured as Start or Run
		Multiple inputs configured as Jog1
		Multiple inputs configured as Jog2
		Multiple inputs configured as Fwd/Rev
14	Invalid Feedback Device for Permanent Magnet Motor Control	Set Par 222 to Value 5 (FB Opt Port0)

Notes:

Programming and Parameters

This chapter provides a complete listing of the PowerFlex 700S Phase II drive parameters. The parameters can be programmed (viewed/edited) using a Human Interface Module (HIM). Refer to [HIM Overview on page 165](#) for information on using the HIM to view and edit parameters. As an alternative, programming can also be performed using DriveTools™ software and a personal computer.

For information on...	See page ...
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How Parameters are Organized	23
Parameter Data in Linear List Format	35
Parameter Cross Reference By Name	143

About Parameters

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

- **ENUM Parameters**

These parameters allow a selection from two or more items. The LCD HIM will display a text message for each item.

- **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, for example, “0.1 Volts”.

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

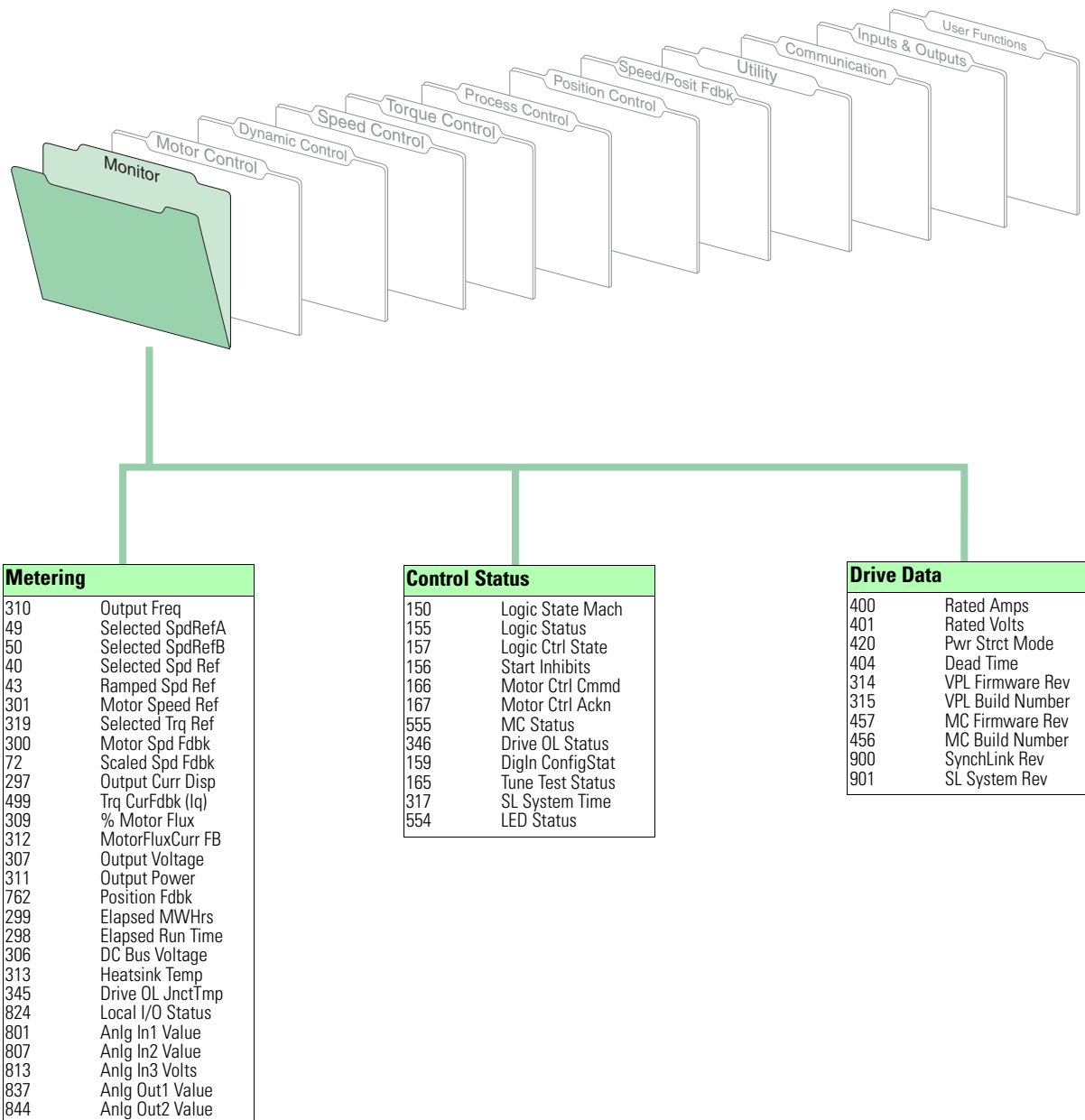
Table 2 - Table Explanation

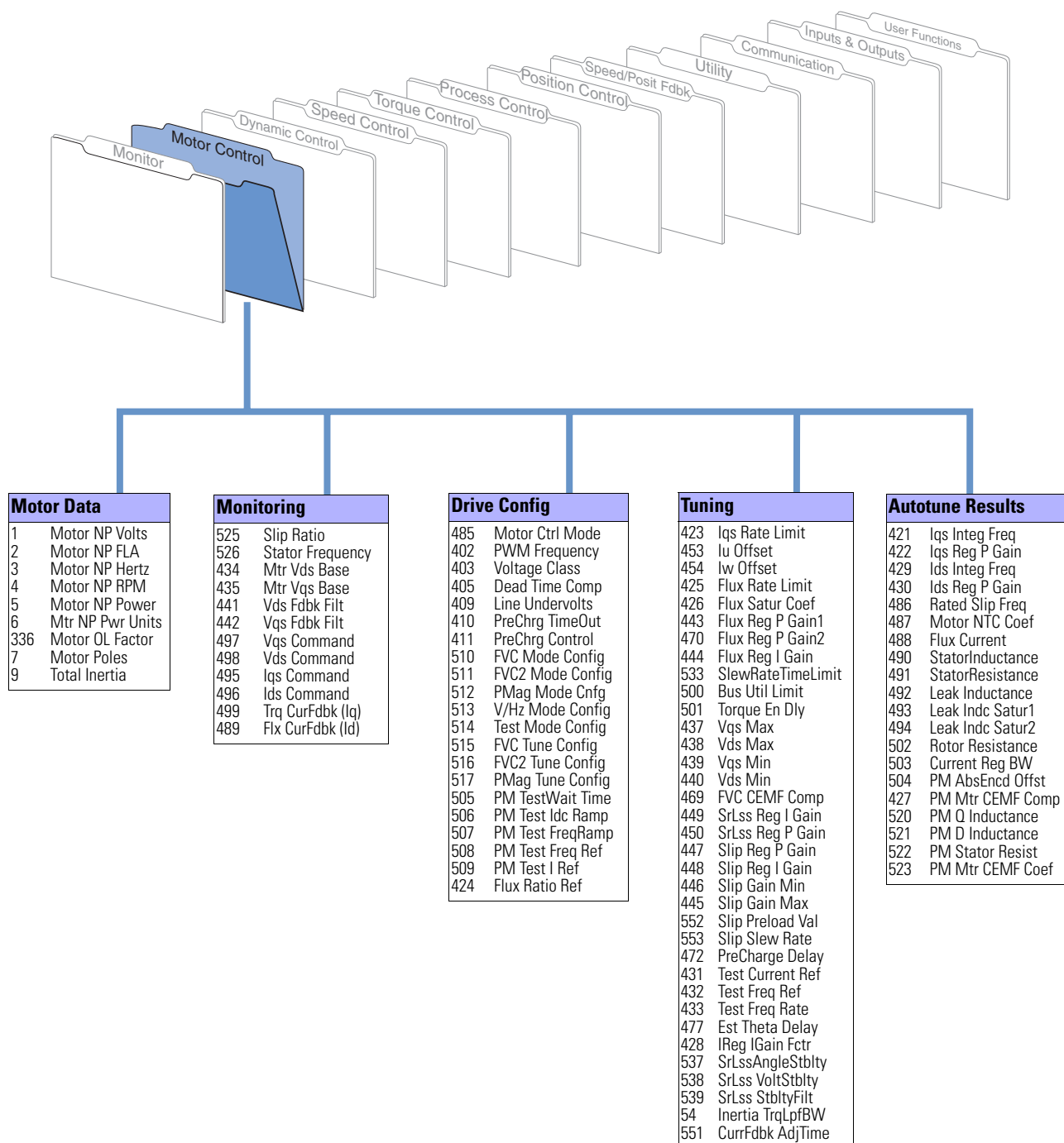
①	②	③					
No.	Name Description	Values		Linkable	Read-Write	Data Type	
4	Motor NP RPM Set to the motor nameplate rated rpm.	Default:	Calculated		RW	16-bit Integer	
		Min/Max:	1/30000				
		Units:	rpm				
		Scale:	Par 4 [Motor NP RPM] = 1.0 P.U.				
110	Spd/Torq ModeSel Selects the source for the drive torque reference.	Default:	1 = "Speed Reg"				
		Options:	0 = "Zero Torque" 4 = "Max Spd/Torq"				
			1 = "Speed Reg" 5 = "Sum Spd/Torq"				
			2 = "Torque Ref" 6 = "AbsMn Spd/Tq"				
			3 = "Min Spd/Torq"				
151	Logic Command The controller-drive interface (as defined by the Controller Communication Format) sets bits to enable and disable various functions and algorithms. Bits that are changed here are reflected in Par 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.						
	Options	PI Trim Rst	PI Trim Hold	Position En	PI Trim En	Frict Comp	
		PI Trim Hold	Position En	PI Trim En	Frict Comp	Inertia Comp	
		Ext Flt/Alm	Reserved	Reserved	SReg IntgRst	SReg IntgHld	
		SpdRamp Hold	Time Axis En	TachLoss Rst	Spd S Crv En	SpdRamp Dsbl	
	Default	0	0	0	0	0	
	Bit	15	14	13	12	11	
		10	9	8	7	6	
		5	4	3	2	1	
		0					
		0 = False 1 = True					

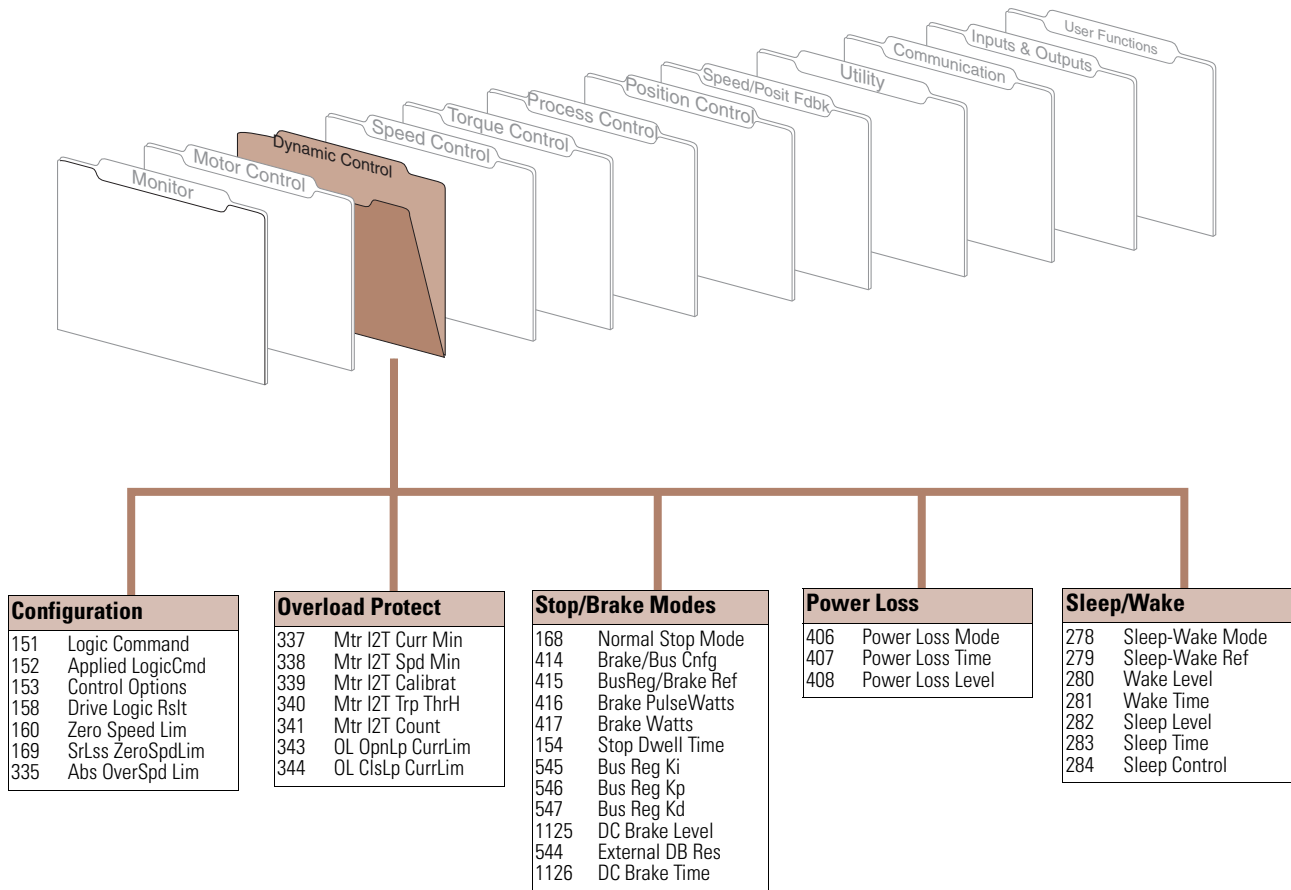
Column(s)	Explanation						
①	No. - Parameter Number  = Parameter value cannot be changed until the drive is stopped.  = Parameter is displayed on the HIM only when Par 196 [ParamAccessLvl] is set to 1 "Advanced".						
②	Name - Parameter name as it appears in the DriveExecutive software. Description - Brief description of parameter function.						
③	Values - Define the various operating characteristics of the parameter. There are 3 types of Values: <table border="1"> <tr> <td>Numeric</td><td> Default: Lists the value assigned at the factory. Min/Max: Displays lowest possible setting/Displays highest possible setting. Units: Unit of measure and resolution as shown on the LCD HIM. Important: Analog inputs can be set for current or voltage with parameter 821 [Analog I/O Units]. Scale: Value sent from Controller or Comm Device = Drive Parameter Value x Comm Scale </td></tr> <tr> <td>ENUM</td><td> Default: Lists the value assigned at the factory. Options: Displays the selections available. </td></tr> <tr> <td>Bit</td><td> Options: Displays the bit selections available. Default: Lists the value assigned at the factory. Bit: Bit number. </td></tr> </table> Linkable - A checkmark (✓) indicates that the parameter is linkable. Read-Write - Identifies if the parameter is read-write or read-only. RW = Read-Write RO = Read Only Data Type - Identifies the parameter data type (i.e. integer, floating point, boolean).	Numeric	Default: Lists the value assigned at the factory. Min/Max: Displays lowest possible setting/Displays highest possible setting. Units: Unit of measure and resolution as shown on the LCD HIM. Important: Analog inputs can be set for current or voltage with parameter 821 [Analog I/O Units]. Scale: Value sent from Controller or Comm Device = Drive Parameter Value x Comm Scale	ENUM	Default: Lists the value assigned at the factory. Options: Displays the selections available.	Bit	Options: Displays the bit selections available. Default: Lists the value assigned at the factory. Bit: Bit number.
Numeric	Default: Lists the value assigned at the factory. Min/Max: Displays lowest possible setting/Displays highest possible setting. Units: Unit of measure and resolution as shown on the LCD HIM. Important: Analog inputs can be set for current or voltage with parameter 821 [Analog I/O Units]. Scale: Value sent from Controller or Comm Device = Drive Parameter Value x Comm Scale						
ENUM	Default: Lists the value assigned at the factory. Options: Displays the selections available.						
Bit	Options: Displays the bit selections available. Default: Lists the value assigned at the factory. Bit: Bit number.						

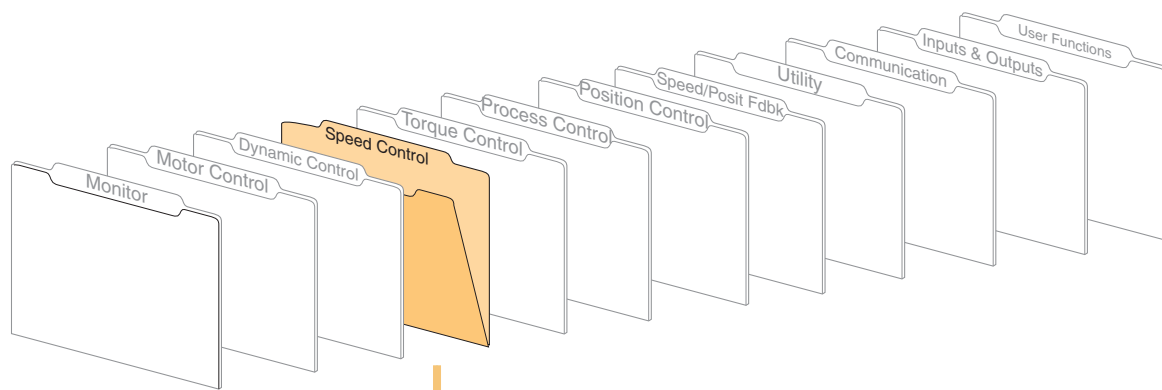
How Parameters are Organized

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 twelve files. Each file is divided into multiple groups of parameters. Each illustration below contains a list of the Parameters contained in each Group for each File.





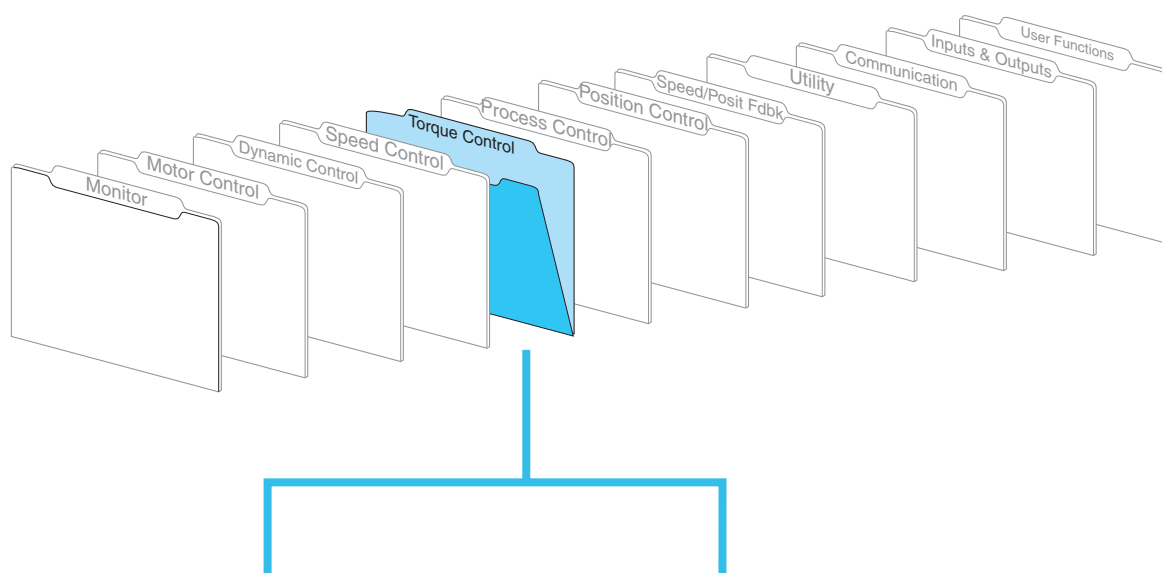




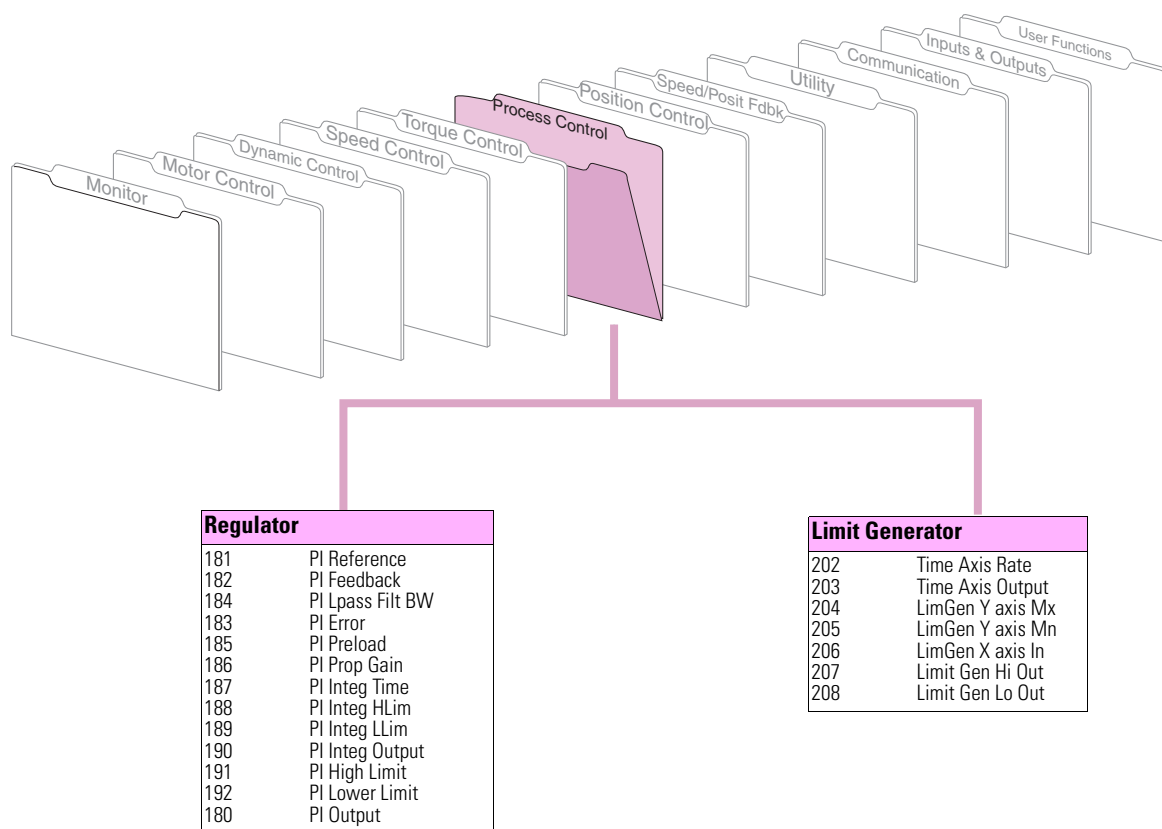
Reference	
27	Speed Ref A Sel
28	Speed Ref B Sel
10	Speed Ref 1
11	Spd Ref1 Divide
12	Speed Ref 2
13	Spd Ref2 Multi
14	Preset Speed 1
15	Preset Speed 2
16	Preset Speed 3
17	Preset Speed 4
18	Preset Speed 5
19	Preset Speed 6
20	Preset Speed 7
29	Jog Speed 1
39	Jog Speed 2
40	Selected Spd Ref
30	Min Spd Ref Lim
31	Max Spd Ref Lim
41	Limited Spd Ref
32	Accel Time 1
33	Decel Time 1
34	S Curve Time
43	Ramped Spd Ref
53	Drive Ramp Rslt
45	Delayed Spd Ref
61	Virt Encoder EPR
62	Virt Enchr Posit
63	Virt Enchr Dlyed
37	Spd Ref Bypass
35	SpdRef Filt Gain
36	SpdRef Filt BW
38	Speed Ref Scale
46	Scaled Spd Ref
21	Speed Trim 1
47	SpdRef + SpdTrm1
56	Inertia SpeedRef
9	Total Inertia
57	InertiaAccelGain
58	InertiaDecelGain
60	DeltaSpeedScale
55	Speed Comp
59	Inertia Trq Add
64	FricComp Spd Ref
65	FricComp Setup
1160	VirtEncPositFast
66	FricComp Stick
67	FricComp Slip
68	FricComp Rated
69	FricComp Trq Add

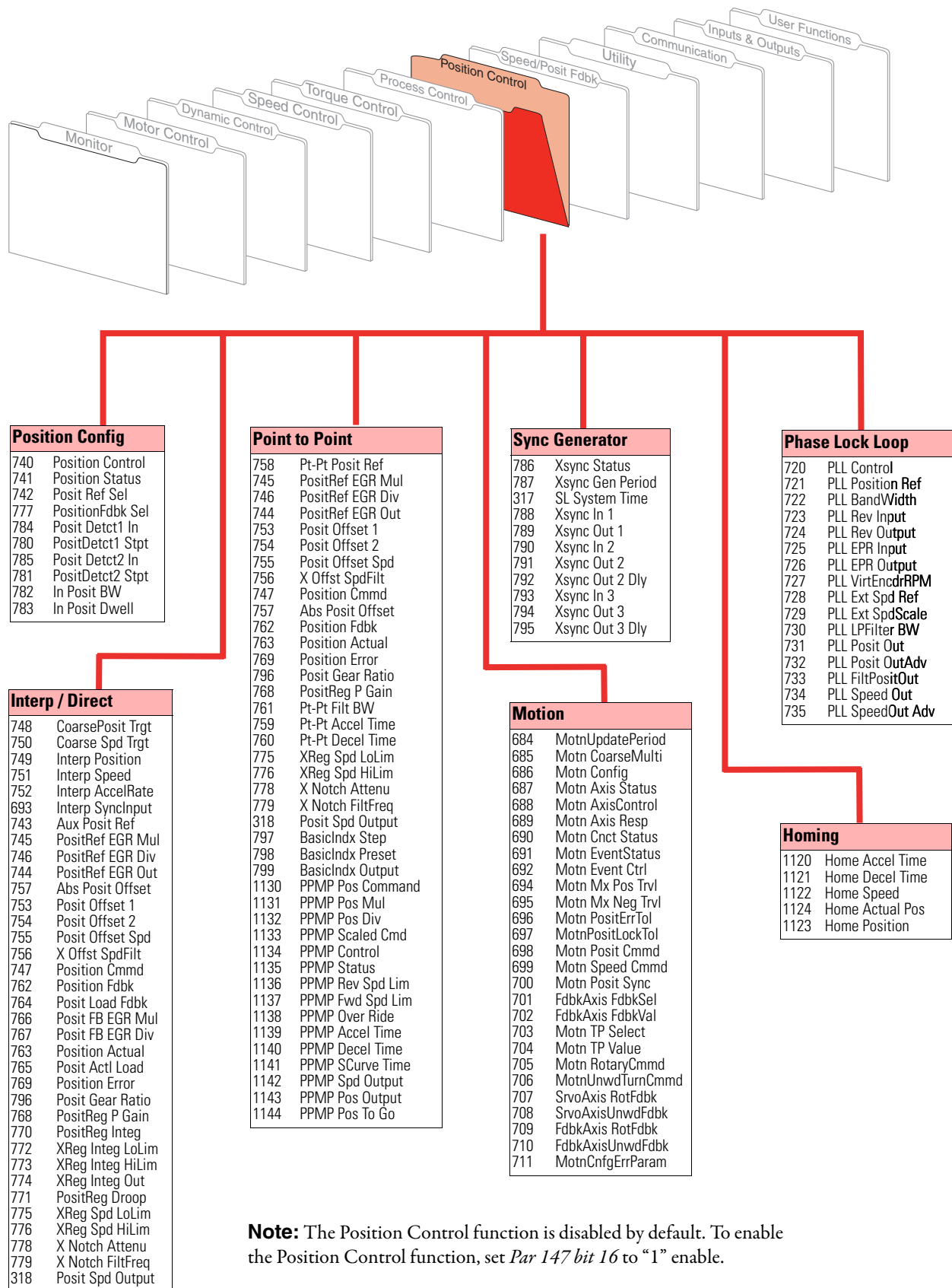
Regulator	
48	Spd Ref Bypass2
23	Speed Trim 3
24	SpdTrim 3 Scale
22	Speed Trim 2
25	STrim2 Filt Gain
26	SpdTrim2 Filt BW
74	Atune Spd Ref
75	Rev Speed Lim
76	Fwd Speed Lim
301	Motor Speed Ref
300	Motor Spd Fdbk
93	SRegFB Filt Gain
94	SReg FB Filt BW
71	Filtered SpdFdbk
100	Speed Error
89	Spd Err Filt BW
84	SpdReg AntiBckup
85	Servo Lock Gain
87	SReg Trq Preset
9	Total Inertia
90	Spd Reg BW
97	Act Spd Reg BW
91	Spd Reg Damping
81	Spd Reg P Gain
82	Spd Reg I Gain
92	SpdReg P Gain Mx
86	Spd Reg Droop
101	SpdReg Integ Out
106	SrLss Spd Reg BW
104	SrLss Spd Reg Kp
105	SrLss Spd Reg Ki
102	Spd Reg Pos Lim
103	Spd Reg Neg Lim
95	SRegOut FiltGain
96	SReg Out Filt BW
302	Spd Reg PI Out

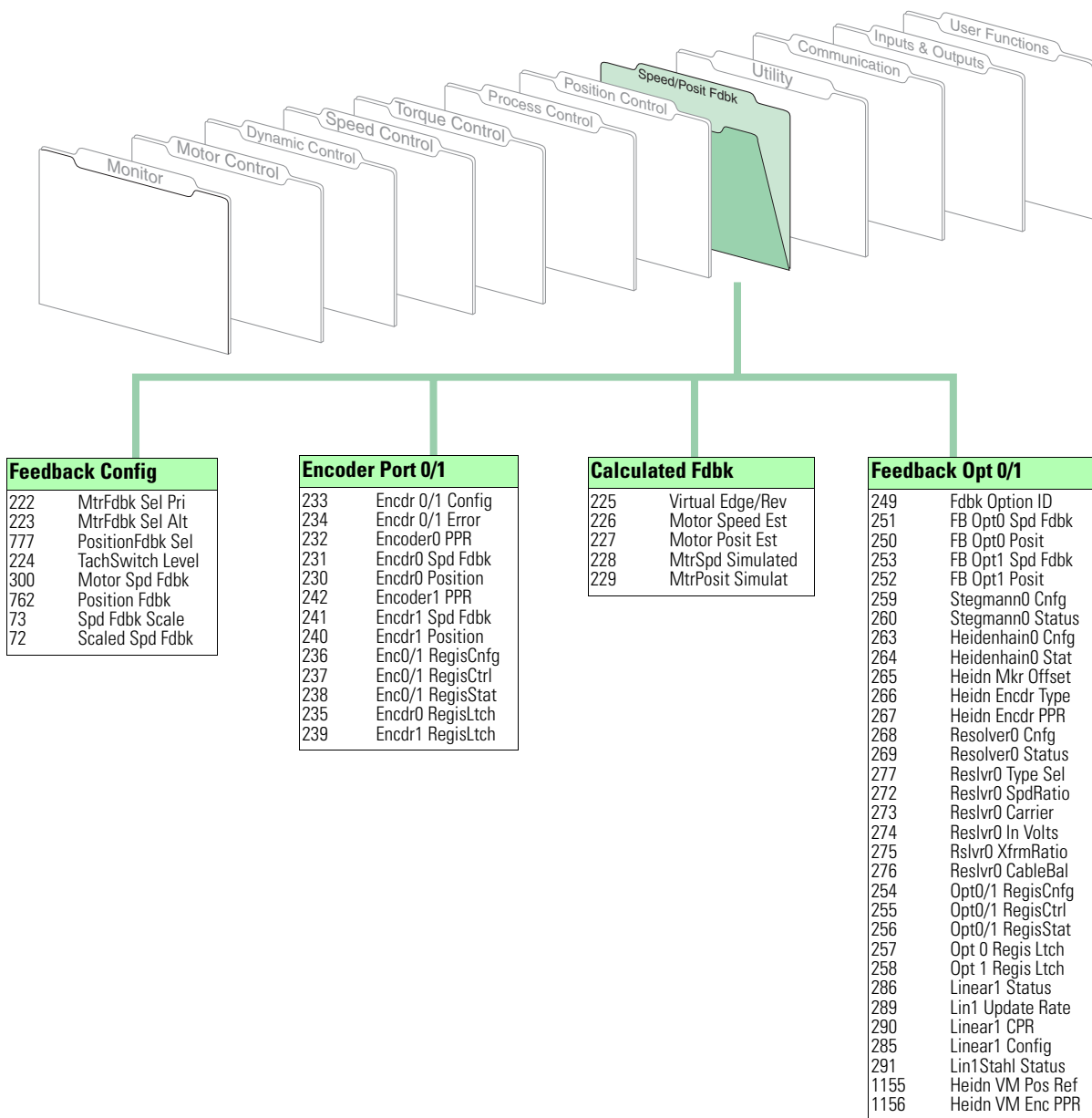
Setpoint Monitor	
171	Set Speed Lim
172	Setpt 1 Data
173	Setpt1 TripPoint
174	Setpt 1 Limit
175	Setpt 2 Data
176	Setpt2 TripPoint
177	Setpt 2 Limit

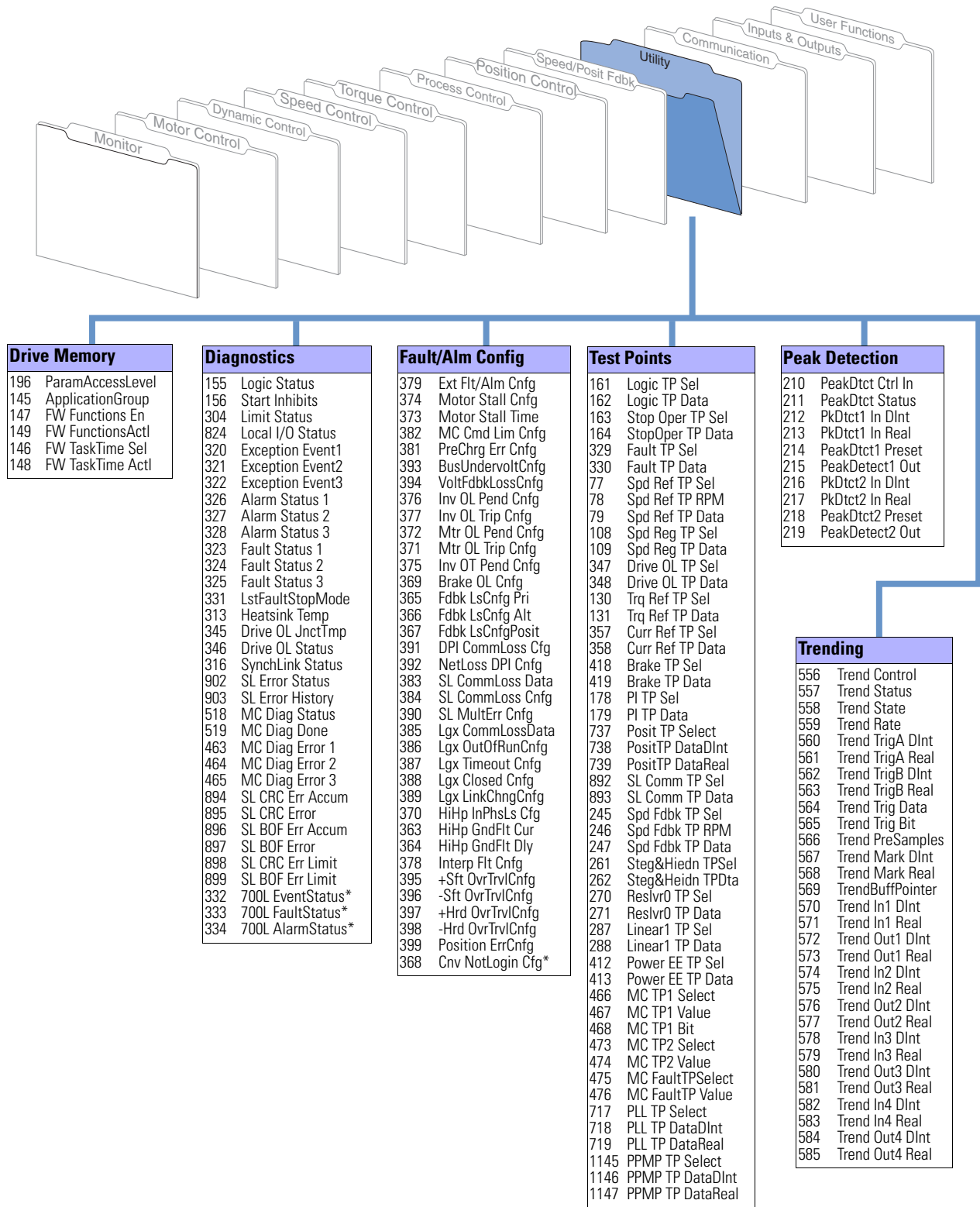


Torque		Current	
110	Speed/TorqueMode	303	Motor Torque Ref
302	Spd Reg PI Out	309	% Motor Flux
59	Inertia Trq Add	359	Motor Flux Est
69	FricComp Trq Add	360	Min Flux
111	Torque Ref 1	361	Flx LpassFilt BW
112	Torque Ref1 Div	350	Iq Actual Ref
113	Torque Ref 2	351	Iq Ref Trim
114	Torque Ref2 Mult	308	Output Current
115	Torque Trim	343	OL OpnLp CurrLim
119	SLAT ErrorSetpnt	356	Mtr Current Lim
120	SLAT Dwell Time	362	Current Lmt Gain
319	Selected Trq Ref	352	Is Actual Lim
116	Torque Step	488	Flux Current
129	Atune Trq Ref	312	MotorFluxCurr FB
117	NotchAttenuation	345	Drive OL JnctTmp
118	Notch Filt Freq	313	Heatsink Temp
415	BusReg/Brake Ref	346	Drive OL Status
401	Rated Volts	344	OL ClsLp CurrLim
306	DC Bus Voltage	353	Iq Actual Lim
300	Motor Spd Fdbk	354	Iq Rate Limit
127	Mtring Power Lim	355	Iq Ref Limited
128	Regen Power Lim	305	Mtr Trq Curr Ref
353	Iq Actual Lim		
125	Torque Pos Limit		
126	Torque Neg Limit		
123	Trq PosLim Actl		
124	Trq NegLim Actl		
303	Motor Torque Ref		
132	Inert Adapt Sel		
133	Inert Adapt BW		
134	Inert Adapt Gain		
221	Load Estimate		

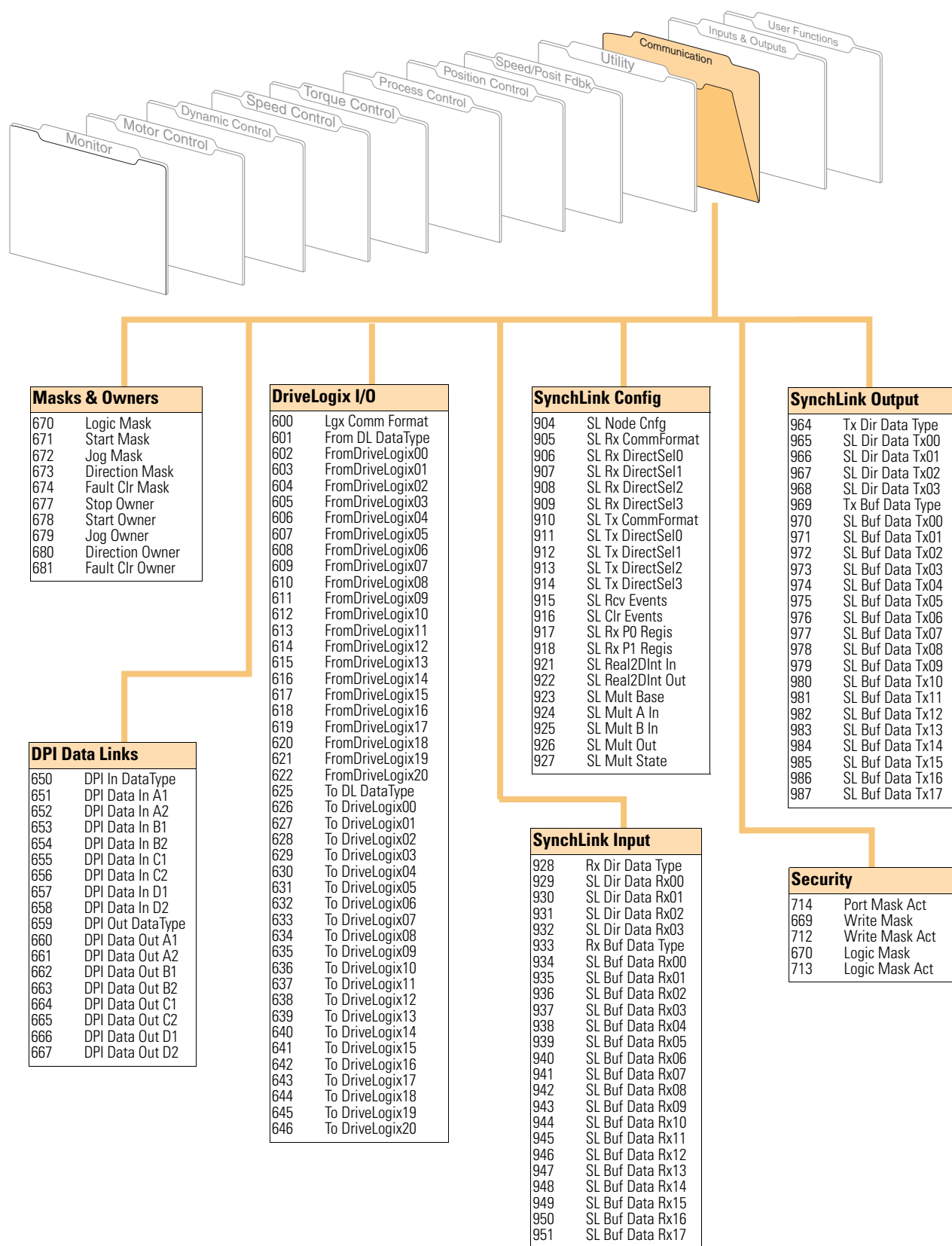


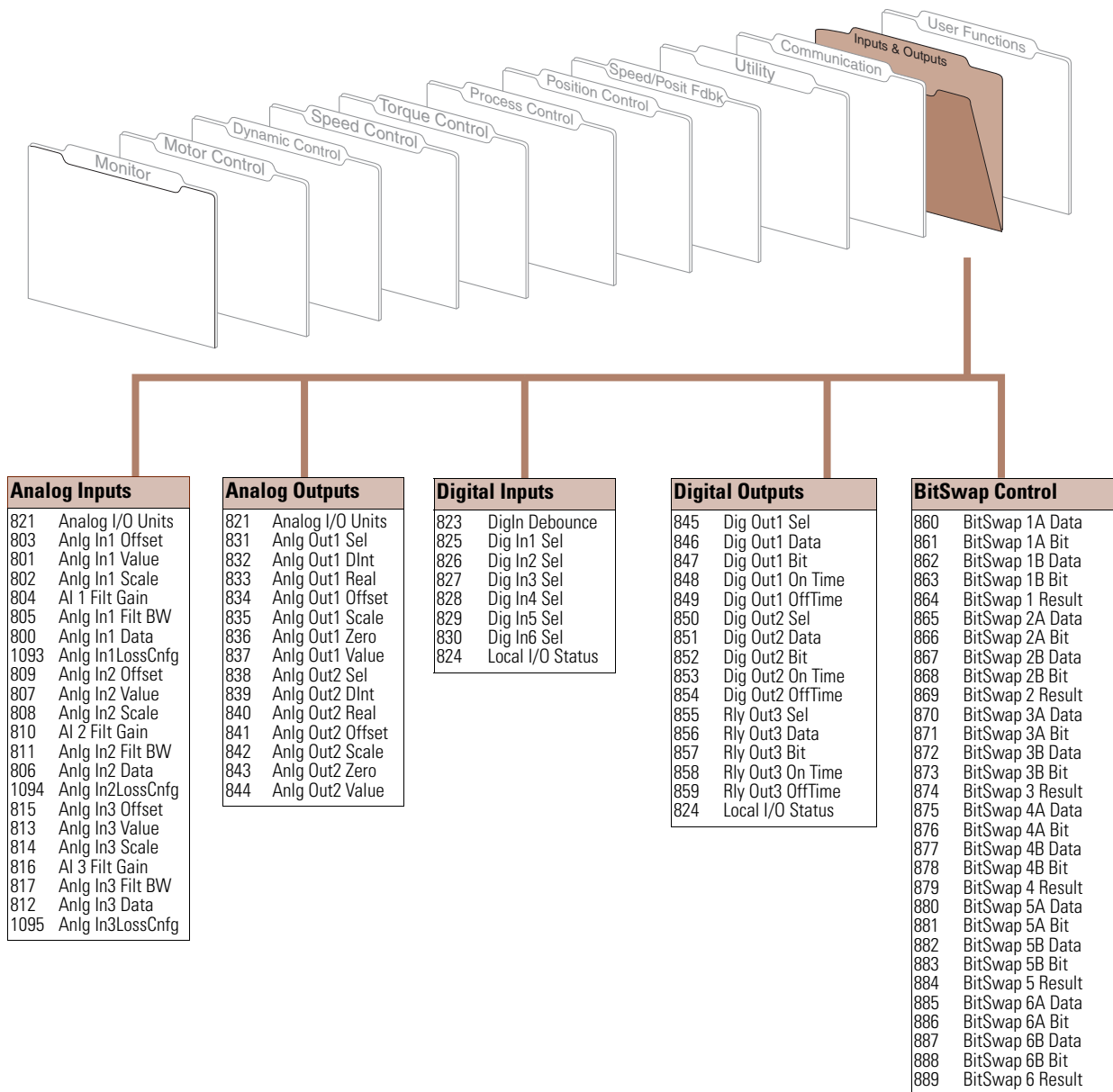




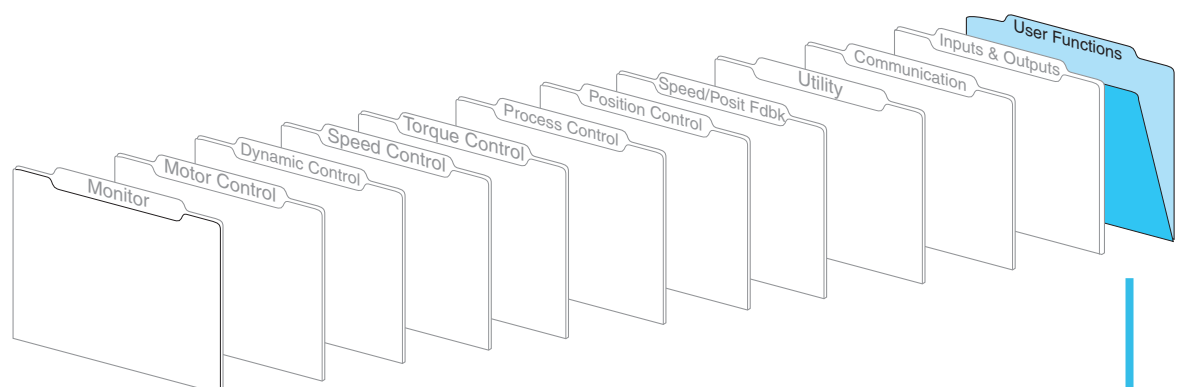


***Note:** This parameter is used by PowerFlex 700L drives only.





¹ The calculation is based on the drive frame size and input voltage.



Param & Config	
1000	UserFunct Enable
1001	UserFunct Actual
1002	UserData DInt 01
1003	UserData DInt 02
1004	UserData DInt 03
1005	UserData DInt 04
1006	UserData DInt 05
1007	UserData DInt 06
1008	UserData DInt 07
1009	UserData DInt 08
1010	UserData DInt 09
1011	UserData DInt 10
1012	UserData Real 01
1013	UserData Real 02
1014	UserData Real 03
1015	UserData Real 04
1016	UserData Real 05
1017	UserData Real 06
1018	UserData Real 07
1019	UserData Real 08
1020	UserData Real 09
1021	UserData Real 10

Select Switches	
1022	Sel Switch Ctrl
1023	Swch Real 1 NC
1024	Swch Real 1 NO
1025	Swch Real 1 Out
1026	Swch DInt 1 NC
1027	Swch DInt 1 NO
1028	Swch DInt 1 Out
1029	Sel Swch In00
1030	Sel Swch In01
1031	Sel Swch In02
1032	Sel Swch In03
1033	Sel Swch In04
1034	Sel Swch In05
1035	Sel Swch In06
1036	Sel Swch In07
1037	Sel Swch In08
1038	Sel Swch In09
1039	Sel Swch In10
1040	Sel Swch In11
1041	Sel Swch In12
1042	Sel Swch In13
1043	Sel Swch In14
1044	Sel Swch In15
1045	SelSwch RealOut
1046	SelSwch DIntOut

Math & Logic	
1047	DInt2Real1 In
1048	DInt2Real1 Scale
1049	DInt2Real1Result
1150	DInt2Real2 In
1151	DInt2Real2 Scale
1152	DInt2Real2Result
1050	Real2DInt In
1051	Real2DInt Scale
1052	Real2DInt Result
1053	MulDiv 1 Input
1054	MulDiv 1 Mul
1055	MulDiv 1 Div
1056	MulDiv 1 Result
1057	MulDiv 2 Input
1058	MulDiv 2 Mul
1059	MulDiv 2 Div
1060	MulDiv 2 Result
1061	Logic Config
1062	Logic/Cmpr State
1063	Logic 1A Data
1064	Logic 1A Bit
1065	Logic 1B Data
1066	Logic 1B Bit
1067	Logic 2A Data
1068	Logic 2A Bit
1069	Logic 2B Data
1070	Logic 2B Bit
1071	Compare 1A
1072	Compare 1B
1073	Compare 2A
1074	Compare 2B
1096	AddSub 1 Input
1097	AddSub 1 Add
1098	AddSub 1 Subtrct
1099	AddSub 1 Result
1100	AddSub 2 Input
1101	AddSub 2 Add
1102	AddSub 2 Subtrct
1103	AddSub 2 Result
1104	AddSub 3 Input
1105	AddSub 3 Add
1106	AddSub 3 Subtrct
1107	AddSub 3 Result

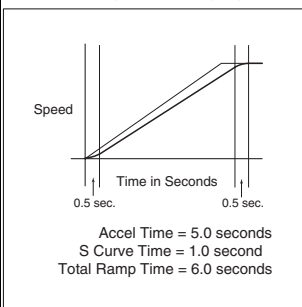
Timers	
1108	DelTmr1 TrigData
1109	DelTmr1 Trig Bit
1110	DelayTimer1PrSet
1111	DelayTimer1Accu
1112	DelayTimer1Stats
1113	DelTmr2 TrigData
1114	DelTmr2 Trig Bit
1115	DelayTimer2PrSet
1116	DelayTimer2Accu
1117	DelayTimer2Stats

Electronic Gear Ratio	
1161	EGR Config
1162	EGR Mul
1163	EGR Div
1164	EGR Pos Input
1165	EGR Pos Output
1166	EGR Pos Preset

Parameter Data in Linear List Format

No.	Name Description	Values	Linkable	Read-Write	Data Type
1	Motor NP Volts Set to the motor nameplate rated volts.	Default: Calculated ⁽¹⁾ Min/Max: 75/705 Units: V		RW	16-bit Integer
2	Motor NP FLA Set to the motor nameplate rated full load amps. Range limited by three-second inverter rating.	Default: Calculated ⁽¹⁾ Min/Max: Calculated/Calculated Units: A		RW	Real
3	Motor NP Hertz Set to the motor nameplate rated frequency.	Default: Calculated ⁽¹⁾ Min/Max: 2.0000/500.0000 Units: Hz		RW	Real
4	Motor NP RPM Set to the motor nameplate rated rpm.	Default: Calculated ⁽¹⁾ Min/Max: 1/30000 Units: rpm		RW	16-bit Integer
5	Motor NP Power Set to the motor nameplate rated power. Note: The unit of measure for this parameter was changed from kW to Hp for firmware version 2.003.	Default: Calculated ⁽¹⁾ Min/Max: 0.2500/3500.0000 Units: Hp		RW	32-bit Integer
6	Mtr NP Pwr Units The power units shown on the motor nameplate.	Default: 0 = "Hp" Options: 0 = "Hp" 1 = "kW"			
7	Motor Poles Set the number of motor poles indicated on the motor nameplate or manufacturer's motor data sheet. Only even numbers of poles are allowed. Calculation: $(120 * \text{NP Hz}) / \text{NP rpm} = \text{Poles}$ [round down] Note: The maximum value was changed from 60 to 128 for firmware version 4.002.	Default: 4 Min/Max: 2/128 Units: Pole		RW	16-bit Integer
9	Total Inertia Time, in seconds, for a motor coupled to a load to accelerate from zero to base speed, at rated motor torque. Calculated during auto-tune.	Default: 2.0000 Min/Max: 0.0100/655.0000 Units: s	✓	RW	Real
10	Speed Ref 1 Sets the speed reference that the drive should use when selected by Par 27 [Speed Ref A Sel] or Par 28 [Speed Ref B Sel]. A value of 1.0 represents base speed of the motor.	Default: 0.0000 Min/Max: +/-2200000000.0000	✓	RW	Real
11	Spd Ref1 Divide Par 10 [Speed Ref 1] is divided by this number. This number can be used to scale the value of Par 10 [Speed Ref 1].	Default: 1.0000 Min/Max: +/-2200000000.0000	✓	RW	Real
12	Speed Ref 2 Sets the speed reference that the drive should use when selected by Par 27 [Speed Ref A Sel] or Par 28 [Speed Ref B Sel]. A value of 1.0 represents base speed of the motor.	Default: 0.0000 Min/Max: +/-2200000000.0000	✓	RW	Real
13	Spd Ref2 Multi Par 12 [Speed Ref 2] is multiplied by this number. This number can be used to scale the value of Par 12 [Speed Ref 2].	Default: 1.0000 Min/Max: +/-2200000000.0000	✓	RW	Real
14 through 20	Preset Speed 1 through Preset Speed 7 Provides an internal fixed speed command value. The preset speeds may be selected with Par 27 [Speed Ref A Sel] or Par 28 [Speed Ref B Sel].	Default: 0.0000 Min/Max: +/-8.0000 P.U. Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.	✓	RW	Real
21	Speed Trim 1 Provides an additive trim value to Par 38 [Speed Ref Scale].	Default: 0.0000 Min/Max: +/-14112.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.	✓	RW	Real
22	Speed Trim 2 Provides an additive speed trim value to Par 47 [SpdRef + SpdTrm1] with a Lead/Lag filter. The Position regulator output is linked to this parameter by default. This speed trim value affects the speed reference input to the speed regulator.	Default: 0.0000 Min/Max: +/-14112.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.	✓	RW	Real
23	Speed Trim 3 Provides a scalable speed trim value that will be added to Par 47 [SpdRef + SpdTrm1]. Par 24 [SpdTrim 3 Scale] scales this value prior to the trim value affecting the speed reference.	Default: 0.0000 Min/Max: +/-14112.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.	✓	RW	Real

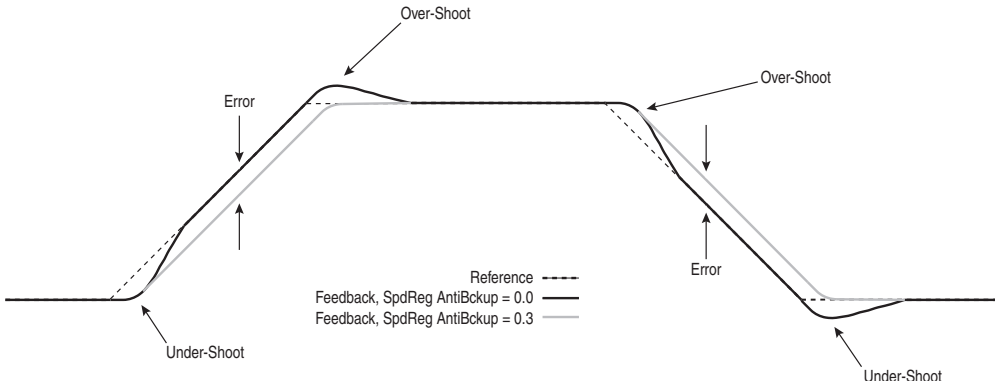
(1) The calculation is based on the drive frame size and input voltage.

No.	Name Description	Values	Linkable	Read-Write	Data Type
24	SpdTrim 3 Scale Par 23 [Speed Trim 3] is multiplied by this number. This number can be used to scale the value of Par 23 [Speed Trim 3].	Default: 1.0000 Min/Max: +/-1000.0000	✓	RW	Real
25	STrim2 Filt Gain Sets the lead term for the Par 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: 1.0000 Min/Max: +/-15.0000	✓	RW	Real
26	SpdTrim2 Filt BW Sets the frequency for the Speed Trim 2 filter.	Default: 200.0000 Min/Max: 0.0000/1000.0000 Units: rad/s	✓	RW	Real
27 28	Speed Ref A Sel Speed Ref B Sel Selects the speed reference source for the drive. The selected speed reference values converge in the final selection of the drives speed reference with Par 152 [Applied LogicCmd] and are selected with bits 28, 29, 30. See the Block Diagrams in Appendix D for a description.	Default A: 1 = "Spd Ref 1" Default B: 5 = "Preset Spd 1" Options: 0 = "Zero Speed" 9 = "Preset Spd 5" 1 = "Speed Ref 1" 10 = "Preset Spd 6" 2 = "Speed Ref 2" 11 = "Preset Spd 7" 3 = "Sum Sref 1+2" 12 = "DPI Port 1" 4 = "MOP Level" 13 = "DPI Port 2" 5 = "Preset Spd 1" 14 = "DPI Port 3" 6 = "Preset Spd 2" 15 = "Reserved" 7 = "Preset Spd 3" 16 = "DPI Port 5" 8 = "Preset Spd 4"			
29	Jog Speed 1 Sets the speed reference that the drive should use when responding to bit 18 [Jog 1] of Par 152 [Applied LogicCmd].	Default: 0.0000 Min/Max: +/-8.0000 P.U. Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.	✓	RW	Real
30	Min Spd Ref Lim Sets the minimum speed reference limit. This value may be negative or positive but not greater than Par 31 [Max Spd Ref Lim].	Default: 0.0000 Min/Max: -8.0000/ Par 31 [Max Spd Ref Lim] Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RW	Real
31	Max Spd Ref Lim Sets the maximum speed reference limit. This value may be negative or positive but not less than Par 30 [Min Spd Ref Lim].	Default: 0.0000 Min/Max: Par 30 [Min Spd Ref Lim]/8.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RW	Real
32	Accel Time 1 Sets the rate of acceleration for all speed increases, with time in seconds to base speed. Accel Rate = Par 4 [Motor NP RPM] / Par 32 [Accel Time]	Default: 10.0000 Min/Max: 0.0100/6553.5000 Units: s	✓	RW	Real
33	Decel Time 1 Sets the rate of deceleration for all speed decreases, with time in seconds to base speed. Decel Rate = Par 4 [Motor NP RPM] / Par 33 [Decel Time]	Default: 10.0000 Min/Max: 0.0100/6553.5000 Units: s	✓	RW	Real
34	S Curve Time Sets the S time (Round In and Round Out) in seconds. Half of the time specified is added to the beginning and half to the end of the applied ramp. The S time is independent of speed and results in a trapezoidal torque profile. For example:  Accel Time = 5.0 seconds S Curve Time = 1.0 second Total Ramp Time = 6.0 seconds	Default: 0.5000 Min/Max: 0.0000/4.0000 Units: s	✓	RW	Real
35	SpdRef Filt Gain Sets the lead term for the Speed Reference filter. Values greater than 1 will result in a lead function and values less than 1 will result in a lag function. A value of 1 will disable the filter.	Default: 1.0000 Min/Max: +/-5.0000	✓	RW	Real
36	SpdRef Filt BW Sets the frequency for the Speed Reference filter.	Default: 0.0000 Min/Max: 0.0000/500.0000 Units: rad/s	✓	RW	Real
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.	Default: 0.0000 Min/Max: +/-14112.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.	✓	RW	Real

No.	Name Description	Values	Linkable	Read-Write	Data Type
38	Speed Ref Scale This parameter is multiplied with the value in Par 37 [Spd Ref Bypass].	Default: 1.0000 Min/Max: +/-1000.0000	✓	RW	Real
39	Jog Speed 2 Sets the speed reference that the drive should use when responding to bit 23 [Jog 2] of Par 152 [Applied LogicCmd].	Default: 0.0000 Min/Max: +/-8.0000 P.U. Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.	✓	RW	Real
40	Selected Spd Ref Displays the speed command before the speed reference limit block.	Default: 0.0000 Min/Max: +/-8.0000 P.U. Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RO	Real
41	Limited Spd Ref Displays the speed command after the limit block, limited by Par 30 [Min Spd Ref Lim] and Par 31 [Max Spd Ref Lim].	Default: 0.0000 Min/Max: +/-8.0000 P.U. Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RO	Real
42 	Jerk Allows you to adjust the amount of S-Curve or "Jerk" applied to the Accel/Decel rate. Note: This parameter was added for firmware version 2.003.	Default: 900 Min/Max: 2/30000		RW	16-bit Integer
43	Ramped Spd Ref Displays the speed command after the ramp block, modified by Par 32 [Accel Time 1], Par 33 [Decel Time 1] and Par 34 [S Curve Time].	Default: 0.0000 Min/Max: +/-8.0000 P.U. Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RO	Real
45	Delayed Spd Ref One sample period delayed output of Par 43 [Ramped Spd Ref]. Used in some applications to synchronize the speed reference value through SynchLink. This master drive Par 43 [Ramped Spd Ref] would then be transmitted to the slave drives over SynchLink.	Default: 0.0000 Min/Max: +/-14112.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RO	Real
46	Scaled Spd Ref Displays the speed command after scaling.	Default: 0.0000 Min/Max: +/-14112.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RO	Real
47	SpdRef + Spd Trm1 Displays the final speed command used by the Speed Regulator. It is the sum of Par 46 [Scaled Spd Ref] and Par 21 [Speed Trim 1].	Default: 0.0000 Min/Max: +/-8.0000 P.U. Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RO	Real
48 	Spd Ref Bypass2 The speed command after the limit, ramp and s-curve blocks. Link a source directly to this parameter to bypass these blocks.	Default: 0.0000 Min/Max: +/-8.0000 P.U. Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.	✓	RW	Real
49	Selected SpdRefA Used to view the value of Speed Reference A, Par 27 [Speed Ref A Sel] from a Human Interface Module (HIM). Note: This parameter is new for firmware version 3.001.	Default: 0.0000 Min/Max: +/-8.0000 Units: rpm		RO	Real
50	Selected SpdRefB Used to view the value of Speed Reference B, Par 28 [Speed Ref B Sel] from a HIM. Note: This parameter is new for firmware version 3.001.	Default: 0.0000 Min/Max: +/-8.0000 Units: rpm		RO	Real
53	Drive Ramp Rslt Displays the speed reference value, after the limit function. This is the input to the error calculator and speed regulator. Available for use in peer-to-peer data links (DPI interface). This number is scaled so that rated motor speed will read 32768.	Default: 0 Min/Max: +/-262144		RO	32-bit Integer
54	Inertia TrqLpfBW Sets the bandwidth of the inertia compensation torque output low pass filter. A value of 0.0 will disable the filter. Note: This parameter is new for firmware version 3.001.	Default: 35.0000 Min/Max: 0.0000 /2000.0000 Units: rad/s	✓	RW	Real
55	Speed Comp Displays the derivative or change in Par 56 [Inertia SpeedRef] on a per second basis. Link this parameter to Par 23 [Speed Trim 3] and set Par 24 [SpdTrim 3 Scale] to 0.002 to reduce position error in following applications.	Default: 0.0000 Min/Max: +/-2200000000.0000 Units: /s		RO	Real
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.	Default: 0.0000 Min/Max: +/-14112.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.	✓	RW	Real
57	InertiaAccelGain Sets the acceleration gain for the Inertia Compensation function. A value of 1 produces 100% compensation.	Default: 1.0000 Min/Max: 1.0000/2.0000	✓	RW	Real
58	InertiaDecelGain Sets the deceleration gain for the Inertia Compensation function. A value of 1 produces 100% compensation.	Default: 1.0000 Min/Max: 1.0000/2.0000	✓	RW	Real

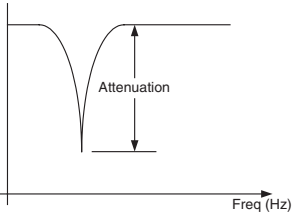
No.	Name Description	Values	Linkable	Read-Write	Data Type
59	Inertia Trq Add The torque reference output generated by the inertia compensator. This torque level is modified by Par 57 [InertiaAccelGain] and Par 58 [InertiaDecelGain]. A value of 1.0 represents rated torque of the motor.	Default: 1.0000 Min/Max: -/+8.0000 P.U. Units: P.U.		RO	Real
60	DeltaSpeedScale Multiplier in the Inertia Compensation function - affects the value of Par 59 [Inertia Trq Add]. Use in center winder and unwind applications to compensate for roll diameter build-up.	Default: 1.0000 Min/Max: -/+1000.0000	✓	RW	Real
61	 Virt Encoder EPR Equivalent Edges Per Revolution (EPR) 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 Pulses Per Revolution (PPR). Enter the equivalent PPR. For example, enter 1024 PPR to match an encoder with 1024 EPR.	Default: 4096 Min/Max: 10/67108864 Units: EPR		RW	32-bit Integer
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 placed in Par 61 [Virt Encoder EPR]. The accumulator starts at zero upon position enable.	Default: 0 Min/Max: -/+2147483648		RO	32-bit Integer
63	Virt Encdr Dlyed One sample period delayed output of Par 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: 0 Min/Max: -/+2147483648		RO	32-bit Integer
64	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.	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: rpm	✓	RW	Real
65	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 least significant digit sets the speed threshold in intervals of 0.0005 P.U. speed. • The next (middle) digit sets the hysteresis band for the “units” digit in intervals of 0.0005 P.U. velocity. • The most significant digit sets the number of time steps from stick to slip, each step is 0.002 sec. Example: Value = 524 means: 5 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: 325 Min/Max: 0/999	✓	RW	16-bit Integer
66	FricComp Stick The torque needed to break away from zero speed. By nature of friction, the break away sticktion will always be greater than the running friction.	Default: 0.1500 Min/Max: 0.0000/8.0000 Units: P.U.	✓	RW	Real
67	FricComp Slip The torque level to sustain very low speed – once “break away” has been achieved. By nature of friction, viscous friction will always be less than sticktion.	Default: 0.1000 Min/Max: 0.0000/8.0000 Units: P.U.	✓	RW	Real
68	FricComp Rated The torque needed to keep the motor running at base speed and with no process loading. The friction compensation algorithm assumes a linear or viscous component of friction between Par 67 [FricComp Slip] and Par 68 [FricComp Rated].	Default: 0.2000 Min/Max: 0.0000/8.0000 Units: P.U.	✓	RW	Real
69	FricComp Trq Add The torque reference output of the Friction Compensation function. A value of 1.0 represents rated torque of the motor.	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: P.U. Scale: Motor P.U. Torque		RO	Real
71	Filtered SpdFdbk Displays the motor speed feedback value output from the feedback Lead/Lag filter.	Default: 0.0000 Min/Max: -/+14112.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RO	Real
72	Scaled Spd Fdbk Displays the product of the speed feedback and Par 73 [Spd Fdbk Scale]. This parameter is for display only.	Default: 0.0000 Min/Max: -/+2200000000.0000 Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RO	Real
73	Spd Fdbk Scale A user-adjustable scale factor (multiplier) for speed feedback. It is multiplied with speed feedback to produce Par 72 [Scaled Spd Fdbk].	Default: 1.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
74	 Atune Spd Ref Sets the maximum speed of the motor during the Flux current and inertia tests.	Default: Par 4 * 0.8500 Min/Max: Par 4 * 0.1000/Par 4 * 1.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RW	Real

No.	Name Description	Values	Linkable	Read-Write	Data Type																					
75	Rev Speed Limit  Sets a limit on the speed reference in the negative direction. This value can be entered as a negative value or zero. The maximum value equals Par 532 [Maximum Freq] * 0.95.	Default: Par 4 * -1.2500 Min/Max: -8.0000/0.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RW	Real																					
76	Fwd Speed Limit  Sets a limit on the speed reference in the positive direction. This value can be entered as a positive value or zero. The maximum value equals Par 532 [Maximum Freq] * 0.95.	Default: Par 4 * 1.2500 Min/Max: 0.0000/8.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RW	Real																					
77	Spd Ref TP Sel Enter or write a value to select speed reference data displayed in Par 79 [Spd Ref TP Data] and Par 78 [Spd Ref TP RPM]. Note: The values for options 7, 8, & 9 were changed to “Reserved” for firmware version 2.004.	Default: 0 = “Zero” Options: 0 = “Zero” 12 = “S Crv Match” 1 = “User Ref” 13 = “S Array size” 2 = “Logic Select” 14 = “S Array Indx” 3 = “Lgc Sel Ref” 15 = “Reserved” 4 = “Ramp Spd Ref” 16 = “Scl Ext Trim” 5 = “Ramp In” 17 = “Trim FiltOut” 6 = “Filt Spd Ref” 18 = “Ref w/Trim” 7 = “Reserved” 19 = “Amp Lim2 In” 8 = “Reserved” 20 = “Amp LimStat2” 9 = “Reserved” 21 = “Amp Lim2 Out” 10 = “Amp Lim Stat” 22 = “FTD Ramp Out” 11 = “Ramp Match” 23 = “Reserved”																								
78	Spd Ref TP RPM Displays the value selected in Par 77 [Spd Ref TP Sel] in rpm. This display should only be used if the selected value is floating point data.	Default: 0.0000 Min/Max: -/+8.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RO	Real																					
79	Spd Ref TP Data Displays the value selected in Par 77 [Spd Ref TP Sel]. This display should only be used if the selected value is integer data.	Default: 0 Min/Max: -/+32768		RO	16-bit Integer																					
81	Spd Reg P Gain Sets the proportional gain of the speed regulator. This value is automatically calculated based on the bandwidth setting in Par 90 [Spd Reg BW]. Proportional gain may be manually adjusted by setting Par 90 [Spd Reg BW] to a value of zero. Units are (per unit torque) / (per unit speed). The maximum value for Par 81 [Spd Reg P Gain] = Par 90 [Spd Reg BW] * Par 9 [Total Inertia]	Default: 20.0000 Min/Max: 0.0000/3000.0000	✓	RW	Real																					
<table><tr><th>Total Inertia (Par 9)</th><th>Maximum Speed Regulator Bandwidth (Par 90)</th><th>Maximum Speed Regulator Proportional Gain (Par 81)</th></tr><tr><td>0.01</td><td>475 (0.5 ms)</td><td>4.75</td></tr><tr><td>0.01</td><td>650 (0.25 ms)</td><td>6.50</td></tr><tr><td>0.01</td><td>30 (sensorless mode)</td><td>0.03</td></tr><tr><td>2.0</td><td>475 (0.5 ms)</td><td>950</td></tr><tr><td>2.0</td><td>650 (0.25 ms)</td><td>1300</td></tr><tr><td>2.0</td><td>30 (sensorless mode)</td><td>60</td></tr></table>		Total Inertia (Par 9)	Maximum Speed Regulator Bandwidth (Par 90)	Maximum Speed Regulator Proportional Gain (Par 81)	0.01	475 (0.5 ms)	4.75	0.01	650 (0.25 ms)	6.50	0.01	30 (sensorless mode)	0.03	2.0	475 (0.5 ms)	950	2.0	650 (0.25 ms)	1300	2.0	30 (sensorless mode)	60	Note: The Max. value was increased from 600.0000 for firmware version 3.001.			
Total Inertia (Par 9)	Maximum Speed Regulator Bandwidth (Par 90)	Maximum Speed Regulator Proportional Gain (Par 81)																								
0.01	475 (0.5 ms)	4.75																								
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0.01	30 (sensorless mode)	0.03																								
2.0	475 (0.5 ms)	950																								
2.0	650 (0.25 ms)	1300																								
2.0	30 (sensorless mode)	60																								
82	Spd Reg I Gain Sets the integral gain of the speed regulator. This value is automatically calculated based on the bandwidth setting in Par 90 [Spd Reg BW]. Integral gain may be manually adjusted by setting Par 90 [Spd Reg BW] to a value of zero. Units are (per unit torque/sec) / (per unit speed).	Default: 50.0000 Min/Max: 0.0000/100000.0000 Units: /s	✓	RW	Real																					

No.	Name Description	Values	Linkable	Read-Write	Data Type
84	SpdReg AntiBckup  By setting this parameter to 0.3, the drive will not over shoot to a step response. This parameter has no effect on the drive's response to load changes. The recommended setting is 0.1000 to 0.5000. Note: This parameter was changed to non-linkable for firmware version 3.001.	Default: 0.0000 Min/Max: 0.0000/0.5000		RW	Real
					
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 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.	Default: 0.0000 Min/Max: 0.0000/300.0000 Units: /s	✓	RW	Real
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 decrease with an increase in load. The units are per unit speed / per unit torque.	Default: 0.0000 Min/Max: 0.0000/0.2500 Units: P.U.	✓	RW	Real
87	SReg Trq Preset When the drive is not enabled, this parameter presets integrator output Par 101 [SpdReg Integ Out] to a specified torque level. This ensures that the torque command will be at the preset value when the drive is enabled and run. Par 153 [Control Options], bit 18 [SpdRegPreset] = 0, enables this preset.	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: P.U.	✓	RW	16-bit Integer
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 5 times the value of Par 90 [Spd Reg BW]. Note: The default value for this parameter was changed from 200.0000 to 700.0000 for firmware version 2.003.	Default: 700.0000 Min/Max: 0.0000/2000.0000 Units: rad/s	✓	RW	Real
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 Par 81 [Spd Reg P Gain] and Par 82 [Spd Reg I Gain]. To disable the automatic gain calculation, set this parameter to a value of zero.	Default: 10.0000 Min/Max: 0.0000/500.0000 Units: rad/s	✓	RW	Real
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 damp. Lowering the damping will produce faster load disturbance rejection, but may cause a more oscillatory response. When Par 90 [Spd Reg BW] is set to zero, damping factor has no effect.	Default: 1.0000 Min/Max: 0.5000/3.0000	✓	RW	Real
92	SpdReg P Gain Mx Places a limit on the maximum value of proportional gain in Par 81 [Spd Reg P Gain] and Par 104 [Srlss Spd Reg Kp]. When gains are automatically calculated, this parameter is necessary to limit the amplification of noise with increased inertia. Note: The Max. value was increased from 600.0000 for firmware version 3.001.	Default: 100.0000 Min/Max: 0.0000/3000.0000	✓	RW	Real
93	SRegFB Filt Gain Sets the lead term for the speed feedback filter. Values greater than 1 will result in a lead function and values less than 1 will result in a lag function. A value of 1 will disable the filter.	Default: 1.0000 Min/Max: -5.0000/20.0000	✓	RW	Real
94	SReg FB Filt BW Sets the frequency for the Speed Feedback filter.	Default: 35.0000 Min/Max: 0.0000/3760.0000 Units: rad/s	✓	RW	Real

No.	Name Description	Values	Linkable	Read-Write	Data Type
95	SRegOut FiltGain Sets the lead term for the Speed Regulator output filter. Values greater than 1 will result in a lead function and values less than 1 will result in a lag function. A value of 1 will disable the filter. Note: The default value for this parameter was changed from 0.7000 to 1.0000 for firmware version 2.003.	Default: 1.0000 Min/Max: +/-5.0000	✓	RW	Real
96	SReg Out Filt BW Sets the frequency for the Speed Regulator output filter.	Default: 30.0000 Min/Max: 0.0000/3760.0000 Units: rad/s	✓	RW	Real
97	Act Spd Reg BW Displays the actual speed regulator bandwidth or crossover frequency. The value represents the bandwidth in Par 90 [Spd Reg BW] after the maximum bandwidth limits have been applied.	Default: 10.0000 Min/Max: 0.0000/500.0000 Units: rad/s		RO	Real
98	Slip RPM @ FLA Sets the amount of compensation to drive output at motor full load current (FLA). Note: This parameter was added for firmware version 2.003.	Default: Based on [Motor NP RPM] Min/Max: 0.0/1200.0 rpm Units: rpm	✓	RW	16-bit Integer
99	Slip Comp Gain Sets the response time of slip compensation. Note: This parameter was added for firmware version 2.003.	Default: 40.0 Min/Max: 1.0/100.0 Units: rad/s	✓	RW	16-bit Integer
100	Speed Error The error (difference) between the motor speed reference (+) and the filtered motor speed feedback (-).	Default: 0.0000 Min/Max: +/-14112.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RO	Real
101	SpdReg Integ Out The output value of the Speed Regulator Integral channel.	Default: 0.0000 Min/Max: +/-8.0000 P.U. Units: P.U. Scale: 1.0 P.U. Torque		RO	Real
102	Spd Reg Pos Lim Sets the positive limit of the Speed Regulator output value. The output of the Speed Regulator is limited by adjustable high and low limits.	Default: 3.0000 Min/Max: 0.0000/6.0000 Units: P.U. Scale: Par 4 [Motor NP RPM] = 1.0 P.U.	✓	RW	Real
103	Spd Reg Neg Lim Sets the negative limit of the Speed Regulator output value. The output of the Speed regulator is limited by adjustable high and low limits.	Default: -3.0000 Min/Max: -6.0000/0.0000 Units: P.U. Scale: Par 4 [Motor NP RPM] = 1.0 P.U.	✓	RW	Real
104	SrLss Spd Reg Kp Sets the proportional gain of the Speed Regulator when sensorless motor speed feedback is used. This value is automatically calculated based on the bandwidth set in Par 106 [Srlss Spd Reg BW]. Proportional gain may be manually adjusted by setting Par 106 to zero. This gain setting has no units (per unit torque) / (per unit speed error).	Default: 8.0000 Min/Max: 0.0000/200.0000	✓	RW	Real
105	SrLss Spd Reg Ki Sets the integral gain of the Speed Regulator when sensorless motor speed feedback is used. This value is automatically calculated based on the bandwidth set in Par 106 [Srlss Spd Reg BW]. Integral gain may be manually adjusted by setting Par 106 to zero. Units are '/s' (per unit torque/sec) / (per unit speed error).	Default: 8.0000 Min/Max: 0.0000/4095.8000 Units: /s	✓	RW	Real
106	SrLss Spd Reg BW Sets the bandwidth of the Speed Regulator when sensorless motor speed feedback is used. Bandwidth is also referred to as the crossover frequency. Small integral 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 Par 104 [Srlss Spd Reg Kp] and Par 105 [Srlss Spd Reg Ki]. To disable the automatic gain calculation, set this parameter to zero.	Default: 10.0000 Min/Max: 0.0000/30.0000 Units: rad/s	✓	RW	Real
107	Slip RPM Meter Displays the present amount of adjustment being applied as slip compensation. Note: This parameter was added for firmware version 2.003.	Default: 0.0 Min/Max: +/- 3000.0 Units: rpm		RO	16-bit Integer

No.	Name Description	Values	Linkable	Read-Write	Data Type
108	Spd Reg TP Sel Enter or write a value to select Speed Regulator data displayed in Par 109 [Spd Reg TP Data]. Note: The values for options 10 & 11 were changed to "Reserved" for firmware version 2.004.	Default: 0 = "Zero" Options: 0 = "Zero" 27 = "Spd FiltOut" 1 = "Iq Rate BW" 28 = "Servo Lock" 2 = "Reserved" 29 = "Spd+ServLock" 3 = "PGain Max BW" 30 = "Prop Output" 4 = "BW Limit" 31 = "Intg Input" 5 = "InertiaMaxBW" 32 = "Scld Int Pre" 6 = "BW Lim Stat" 33 = "Sel Int Pre" 7 = "BW Select" 34 = "Droop Output" 8 = "Totl Inertia" 35 = "Out Lim Stat" 9 = "TI Lim Stat" 36 = "Intg Hold" 10 = "Reserved" 37 = "Srlss ZeroWe" 11 = "Reserved" 38 = "I GainParLim" 12 = "I Rate Limit" 39 = "P GainParLim" 13 = "I RtLim Stat" 40 = "SrvLck ParLim" 14 = "PGain Max" 41 = "AntiBkup PLm" 15 = "GnMx LimStat" 42 = "Droop ParLim" 16 = "Damping" 43 = "Pos Lim Stat" 17 = "Dmp Lim Stat" 44 = "Neg Lim Stat" 18 = "Reserved" 45 = "Limiter Out" 19 = "Srls KpMxBW" 46 = "Active Pgain" 20 = "Srls BWLimit" 47 = "Active Igain" 21 = "SrlslnrtMxBW" 48 = "Reserved" 22 = "SrlsBWSelect" 49 = "Reserved" 23 = "Srls BW Calc" 50 = "Reserved" 24 = "Snsr BW Calc" 51 = "Reserved" 25 = "Reserved" 52 = "Reserved" 26 = "Reserved" 53 = "Reserved"			
109	Spd Reg TP Data Displays the data selected by Par 108 [Spd Reg TP Sel].	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: P.U.		RO	Real
110	Speed/TorqueMode Selects the source for the drive torque reference. Note: Values 7 & 8 were added for firmware version 3.001.	Default: 1 = "Speed Reg" Options: 0 = "Zero Torque" 5 = "Sum Spd/Trq" 1 = "Speed Reg" 6 = "AbsMnSpd/Trq" 2 = "Torque Ref" 7 = "SLAT Minimum" 3 = "Min Spd/Trq" 8 = "SLAT Maximum" 4 = "Max Spd/Trq"			
111	Torque Ref 1 Supplies an external motor torque reference to the drive. This parameter is divided by the value in Par 112 [Torq Ref1 Div]. A value of 1.0 represents rated torque of the motor.	Default: 0.0000 Min/Max: -/+2200000000.0000 Scale: 1.0 Rated Motor Torque	✓	RW	Real
112	Torque Ref1 Div Par 111 [Torque Ref 1] is divided by this number. Use this parameter to scale the value of Par 111 [Torque Ref 1].	Default: 1.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
113	Torque Ref 2 Supplies an external motor torque reference to the drive. This parameter is multiplied by the value in Par 114 [Torq Ref2 Mult]. A value of 1.0 represents rated torque of the motor.	Default: 0.0000 Min/Max: -/+2200000000.0000 Scale: 1.0 Rated Motor Torque	✓	RW	Real
114	Torque Ref2 Mult Par 113 [Torque Ref 2] is multiplied by this number. Use this parameter to scale the value of Par 113 [Torque Ref 2].	Default: 1.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
115	Torque Trim The amount added to Par 111 [Torque Ref 1] and Par 113 [Torque Ref 2] before the Speed/Torque Mode Selector. A value of 1.0 represents rated torque of the motor.	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: P.U. Scale: 1.0 Rated Motor Torque	✓	RW	Real
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.	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: P.U. Scale: 1.0 Rated Motor Torque	✓	RW	Real

No.	Name Description	Values	Linkable	Read-Write	Data Type
117	NotchAttenuation Sets the depth for the Notch Filter. Attenuation is the ratio of the output to the input at the notch frequency. An attenuation of 30 means that the notch output is 1/30 th of the input at the specified frequency. Calculation: Attenuation = Input / Output 	Default: 50 Min/Max: 0/500	✓	RW	Real
118	Notch Filt Freq The center frequency for Notch filter. To disable, set to zero (0).	Default: 0.0000 Min/Max: 0.0000/500.0000 Units: Hz	✓	RW	Real
119	SLAT ErrorSetpnt Determines the rpms at which the drive will switch from speed mode to the Speed Limited Adjustable Torque (SLAT) min. or SLAT max. mode, identified in Par 110 [Speed/Torque Mode] bit 7 “SLAT Minimum” or bit 8 “SLAT Maximum”. Note: This parameter was added for firmware version 3.001.	Default: 0.005 Min/Max: 0.0/0.1 Units: rpm	✓	RW	Real
120	SLAT Dwell Time SLAT control dwell time. The time in seconds that the drive can be above the error setpoint in Par 119 [SLAT ErrorSetpnt] before returning to the SLAT min. or SLAT max. mode. Note: This parameter was added for firmware version 3.001.	Default: 0.0 Min/Max: 0.0/2.0 Units: s	✓	RW	Real
123	Trq PosLim Actl Sets the internal torque limit for positive torque reference values. The positive internal motor torque will not be allowed to exceed this value.	Default: 1.0 Min/Max: 0.0/8.0 Units: P.U.		RO	Real
124	Trq NegLim Actl Sets the internal torque limit for negative torque reference values. The internal negative motor torque will not be allowed to exceed this value.	Default: -1.0 Min/Max: -8.0/0.0 Units: P.U.		RO	Real
125	Torque Pos Limit Sets the external torque limit for positive torque reference values. The external positive motor torque will not be allowed to exceed this value.	Default: 2.0000 Min/Max: 0.0000/8.0000 Units: P.U.	✓	RW	Real
126	Torque Neg Limit Sets the external torque limit for negative torque reference values. The external negative motor torque will not be allowed to exceed this value.	Default: -2.0000 Min/Max: -8.0000/0.0000 Units: P.U.	✓	RW	Real
127	Mtring Power Lim Sets the maximum motoring (positive) power of the drive. This can be calculated by multiplying the desired maximum motor torque and the maximum motor speed. A value of 1.0 = nominal motor power.	Default: 8.0000 Min/Max: 0.0000/8.0000 Units: P.U.	✓	RW	Real
128	Regen Power Lim Sets the maximum regenerative (negative) power of the drive. This can be calculated by multiplying the desired maximum motor torque and the maximum motor speed. A value of 1.0 = nominal motor power. Note: The default value for this parameter was changed from -1.0000 to -0.5000 for firmware version 2.003.	Default: -0.5000 Min/Max: -8.0000/0.0000 Units: P.U.	✓	RW	Real
129	 Atune Trq Ref Sets the motor torque that is applied to the motor during the flux current and inertia tests. Note: The minimum value for this parameter was changed from 0.2500 to 0.2000 for firmware version 2.003.	Default: 0.50 Min/Max: 0.2/1.0 Units: P.U. Scale: 1.0 = P.U. Motor to Torque		RW	Real

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																						
130	Trq Ref TP Sel Enter or write a value to select torque reference data displayed in Par 131 [Trq Ref TP Data]. Note: The value for option 5 was changed to "Reserved" for firmware version 2.004.	Default: 0 = "Zero" Options: 0 = "Zero" 16 = "Neg Lim Src" 1 = "Scale Output" 17 = "MPwr Par Lim" 2 = "Spd Torque" 18 = "RPwr Par Lim" 3 = "Trq Mode Out" 19 = "+Trq ParLim" 4 = "Actv TrqMode" 20 = "-Trq ParLim" 5 = "Reserved" 21 = "Nom Bus Volt" 6 = "Trq En Input" 22 = "Bus Volt Hys" 7 = "NotchFiltOut" 23 = "Bus Reg Ref" 8 = "NotchFilt In" 24 = "Bus Reg Err" 9 = "Trq Lim In" 25 = "Bus Reg Intg" 10 = "Bus Reg Out" 26 = "BusReg Clamp" 11 = "Pos Pwr Lim" 27 = "BusRegOutput" 12 = "Neg Pwr Lim" 28 = "IAA Filt Out" 13 = "Pos Atun Trq" 29 = "IAA dVf/dt" 14 = "Neg Atun Trq" 30 = "MC Trq Lim" 15 = "Pos Lim Src" 31 = "IqActlTrqLim"																																																									
131	Trq Ref TP Data Displays the data selected by Par 130 [Trq Ref TP Sel].	Default: 0.0 Min/Max: -/+8.0 P.U. Units: P.U. Scale: 1.0 = P.U. Motor to Torque		RO	Real																																																						
132	Inert Adapt Sel Configures the Inertia Adaptation Algorithm (IAA Function). • Bit 0 "Inrtia Adapt" when set to 1 (on), the Inertia Adaptation function will effect enhanced stability, higher bandwidths and dynamic stiffness. Useful when systems with a gear-box becomes disconnected from the load. Also used with motors that have very little inertia that otherwise lack dynamic stiffness, even at high bandwidths. • Bit 1 "Load Est" when set to 1 (on), the Load Estimate option removes or greatly reduces load disturbances and gives quicker system response. • Bit 2 "First Diff" selects the first difference feedback for Inertia Adaptation. Notes: When setting both Bit 0 & 1, stability is enhanced and load disturbances are removed. Bit 2 "First Diff" was added for firmware version 3.001. Options <table><tr><td></td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>First Diff</td><td>Load Est</td><td>Inrtia Adapt</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True						Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	First Diff	Load Est	Inrtia Adapt	Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	0	Bit	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	First Diff	Load Est	Inrtia Adapt																																										
Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	0																																										
Bit	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																										
133	Inert Adapt BW This parameter sets the bandwidth of the Inertia Adaptation function when the IAA function is selected (Par 132 [Inert Adapt Sel], bit 0 = 1). Typical IAA bandwidths range from 70 to 150 rad/sec with 100 rad/sec nominal best. If the Load Estimate function is selected (Par 132 [Inert Adapt Sel], bit 0 = 1), then this parameter sets the natural frequency of a filter in rad/sec. Typical values range from 10 to 150 rad/sec with higher values being more responsive to disturbances but with increased system noise. There is no nominal best value, but 40 rad/sec is a suggested starting point. This adjustment may not function well in 'sloppy' geared systems. If both Inertia Adaptation and Load Estimate functions are active, use a bandwidth setting of 100 rad/sec.	Default: 100.0000 Min/Max: 10.0000/250.0000 Units: rad/s		✓	RW Real																																																						
134	Inert Adapt Gain This parameter sets a multiplier of system inertia when the Inertia Adaptation function is selected (Par 132 [Inert Adapt Sel], bit 0 = 1). Higher values may cause high frequency ringing, while smaller values may cause fundamental load instability. A typical value is 0.5 This parameter has no affect on the Load Estimate function.	Default: 0.500 Min/Max: 0.300/1.000		✓	RW Real																																																						
136 137 138	Skip Speed 1 Skip Speed 2 Skip Speed 3 Sets a frequency at which the drive will not operate. [Skip Speed 1 - 3] and Par 139 [Skip Speed Band] must not equal 0. Note: These parameters were added for firmware version 2.003.	Default: 0.0 Min/Max: -/+30000.0 Units: rpm		✓	RW 16-bit Integer																																																						
139	Skip Speed Band Determines the bandwidth around a skip frequency. [Skip Speed Band] is split, applying 1/2 above and 1/2 below the actual skip frequency. The same bandwidth applies to all skip frequencies. Note: This parameter was added for firmware version 2.003.	Default: 0.0 Min/Max: 0.0/1000.0 Units: rpm		✓	RW 16-bit Integer																																																						

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																																																																				
145	Hardware Present Indicates if optional hardware is installed. Options <table><tr><td></td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>DriveLogix</td><td>Stahl Fdbck</td><td>Reserved</td><td>Tempsonfdbk</td><td>Resolver Brd</td><td>MDI Brd</td><td>Heidenhain</td><td>StegmannHfrs</td><td>2nd Encoder</td><td>Reserved</td><td>Reserved</td><td>SafeOff Brd</td><td>Reserved</td><td>SynchLinkBrd</td><td>Reserved</td><td>EmbeddedENET</td><td>DPI Comm Brd</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>x</td><td>x</td><td>0</td><td>x</td><td>0</td><td>x</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table>		Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	DriveLogix	Stahl Fdbck	Reserved	Tempsonfdbk	Resolver Brd	MDI Brd	Heidenhain	StegmannHfrs	2nd Encoder	Reserved	Reserved	SafeOff Brd	Reserved	SynchLinkBrd	Reserved	EmbeddedENET	DPI Comm Brd	Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	x	0	0	0	0	0	0	x	x	0	x	0	x	0	0	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			0 = False 1 = True
	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	DriveLogix	Stahl Fdbck	Reserved	Tempsonfdbk	Resolver Brd	MDI Brd	Heidenhain	StegmannHfrs	2nd Encoder	Reserved	Reserved	SafeOff Brd	Reserved	SynchLinkBrd	Reserved	EmbeddedENET	DPI Comm Brd																																																																								
Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	x	0	0	0	0	0	0	x	x	0	x	0	x	0	0																																																																								
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																									
146	 FW TaskTime Sel Sets the scan times for the drive firmware. Changing the firmware scan times will affect drive performance. Faster scan times may allow for higher bandwidth of the internal regulators. To achieve faster scan times some functions may need to be disabled. Only the most demanding application may benefit from faster scan times. Typically, adjusting this parameter is not needed, it is recommended you consult the factory before changing.	Default: 0 = "0.5 /2 /8ms" Options: 0 = "0.5 /2 /8ms" 1 = "0.5 /1 /8ms" 2 = "0.25 /1 /8ms"		RW	16-bit Integer																																																																																																				
147	 FW Functions En Allows specific firmware functions to be disabled. When a bit is false, the associated function is disabled and all related parameters will be hidden. When a bit is true, the associated function is enabled and all related parameters will be displayed. Notes: Bits 18, 20, & 21 were changed to "Reserved" for firmware version 2.004. Bit 19 "MotinPlanner" and 24 "PhaseLockLp" were added for firmware version 3.001. Options <table><tr><td></td><td>DvlpmtDeBug</td><td>Trending</td><td>Reserved</td><td>Peak Detect</td><td>Test Points</td><td>Reserved</td><td>Reserved</td><td>Phase LockLp</td><td>Sync Gener</td><td>PosWtch/Dtct</td><td>Reserved</td><td>Reserved</td><td>MotinPlanner</td><td>Reserved</td><td>Reserved</td><td>PositionCtrl</td><td>DI BitSwaps</td><td>Digital Outs</td><td>Analog Outs</td><td>Analog Ins</td><td>PF700S</td><td>Reserved</td><td>Reserved</td><td>Lim/Func Gen</td><td>Process Trim</td><td>Reserved</td><td>Speed Reg</td><td>Virt Encoder</td><td>FrictionComp</td><td>Inertia Comp</td><td>Spd Ref Ctrl</td><td>Spd Ref Sel</td></tr><tr><td>Default</td><td>1</td><td>1</td><td>x</td><td>1</td><td>1</td><td>x</td><td>x</td><td>0</td><td>1</td><td>1</td><td>x</td><td>x</td><td>0</td><td>x</td><td>x</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>x</td><td>x</td><td>1</td><td>1</td><td>x</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></tr><tr><td>Bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table>		DvlpmtDeBug	Trending	Reserved	Peak Detect	Test Points	Reserved	Reserved	Phase LockLp	Sync Gener	PosWtch/Dtct	Reserved	Reserved	MotinPlanner	Reserved	Reserved	PositionCtrl	DI BitSwaps	Digital Outs	Analog Outs	Analog Ins	PF700S	Reserved	Reserved	Lim/Func Gen	Process Trim	Reserved	Speed Reg	Virt Encoder	FrictionComp	Inertia Comp	Spd Ref Ctrl	Spd Ref Sel	Default	1	1	x	1	1	x	x	0	1	1	x	x	0	x	x	0	1	1	1	1	1	x	x	1	1	x	1	1	1	1	1	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			0 = False 1 = True			
	DvlpmtDeBug	Trending	Reserved	Peak Detect	Test Points	Reserved	Reserved	Phase LockLp	Sync Gener	PosWtch/Dtct	Reserved	Reserved	MotinPlanner	Reserved	Reserved	PositionCtrl	DI BitSwaps	Digital Outs	Analog Outs	Analog Ins	PF700S	Reserved	Reserved	Lim/Func Gen	Process Trim	Reserved	Speed Reg	Virt Encoder	FrictionComp	Inertia Comp	Spd Ref Ctrl	Spd Ref Sel																																																																									
Default	1	1	x	1	1	x	x	0	1	1	x	x	0	x	x	0	1	1	1	1	1	x	x	1	1	x	1	1	1	1	1																																																																										
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																									
148	FW TaskTime Actl Displays the actual firmware scan times selected by Par 146 [FW TaskTime Sel]. Before the change to the firmware scan time is accepted, the drive evaluates the change to ensure the processor will not be overloaded. If there is risk of overloading the processor, the change will not be accepted.	Default: 0 = "0.5 /2 /8ms" Options: 0 = "0.5 /2 /8ms" 1 = "0.5 /1 /8ms" 2 = "0.25 /1 /8ms" 3 = "0.25 /0.5 /8ms" 4 = "0.1/0.5 /8ms" 5 = "0.5/1 /2ms" 6 = "0.25 /1 /2ms" 7 = "0.25 /0.5 /2ms" 8 = "0.1/0.5 /2ms"		RO	16-bit Integer																																																																																																				
149	FW FunctionsActl Displays the actual state of the firmware functions. If activating requested functions could overload the processor, the change to Par 147 [FW Functions En] will not be accepted. Note: Bit 19 "MotinPlanner" and 24 "PhaseLockLp" were added for firmware version 3.001 Options <table><tr><td></td><td>DvlpmtDeBug</td><td>Trending</td><td>Reserved</td><td>Peak Detect</td><td>Test Points</td><td>Reserved</td><td>Reserved</td><td>Phase LockLp</td><td>Sync Gener</td><td>PosWtch/Dtct</td><td>Posit Offset</td><td>Posit Motion</td><td>MotinPlanner</td><td>Posit Pr2Pt</td><td>Posit Direct</td><td>Posit Interp</td><td>DI BitSwaps</td><td>Digital Outs</td><td>Analog Outs</td><td>Analog Ins</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Lim/Func Gen</td><td>Process Trim</td><td>Reserved</td><td>Speed Reg</td><td>Virt Encoder</td><td>FrictionComp</td><td>Inertia Comp</td><td>Spd Ref Ctrl</td><td>Spd Ref Sel</td></tr><tr><td>Default</td><td>0</td><td>0</td><td>x</td><td>0</td><td>0</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table>		DvlpmtDeBug	Trending	Reserved	Peak Detect	Test Points	Reserved	Reserved	Phase LockLp	Sync Gener	PosWtch/Dtct	Posit Offset	Posit Motion	MotinPlanner	Posit Pr2Pt	Posit Direct	Posit Interp	DI BitSwaps	Digital Outs	Analog Outs	Analog Ins	Reserved	Reserved	Reserved	Lim/Func Gen	Process Trim	Reserved	Speed Reg	Virt Encoder	FrictionComp	Inertia Comp	Spd Ref Ctrl	Spd Ref Sel	Default	0	0	x	0	0	x	x	0	0	0	0	0	0	0	0	0	0	0	0	0	x	x	x	0	0	x	0	0	0	0	0	0	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			0 = False 1 = True		
	DvlpmtDeBug	Trending	Reserved	Peak Detect	Test Points	Reserved	Reserved	Phase LockLp	Sync Gener	PosWtch/Dtct	Posit Offset	Posit Motion	MotinPlanner	Posit Pr2Pt	Posit Direct	Posit Interp	DI BitSwaps	Digital Outs	Analog Outs	Analog Ins	Reserved	Reserved	Reserved	Lim/Func Gen	Process Trim	Reserved	Speed Reg	Virt Encoder	FrictionComp	Inertia Comp	Spd Ref Ctrl	Spd Ref Sel																																																																									
Default	0	0	x	0	0	x	x	0	0	0	0	0	0	0	0	0	0	0	0	0	x	x	x	0	0	x	0	0	0	0	0	0																																																																									
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																									
150	Logic State Mach Indicates the logical state of the drive. • "Stopped" indicates zero speed has been detected and the speed and torque regulators are disabled. • 8 "Slip Test" indicates that the Slip Frequency Auto Tune test is in progress. • 11 "Sleep Mode" indicates that the drive has entered sleep mode. Note: Value 11 "Sleep Mode" was added for firmware version 5.002. Value 8 "Slip Test" was added for firmware version 3.001. Values 9 "Finding Home" and 10 "Homing Done" were added for firmware version 3.003.	Default: 0 = "Stopped" Options: 0 = "Stopped" 1 = "Starting" 2 = "Running" 3 = "Stopping" 4 = "Inertia Test" 5 = "MC Diag" 6 = "Test Done" 7 = "EnableHealth" 8 = "Slip Test" 9 = "Finding Home" 10 = "Homing Done" 11 = "Sleep Mode"																																																																																																							

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																																																																			
151	Logic Command The controller-drive interface (as defined by the Controller Communication Format) sets bits to enable and disable various functions and algorithms. Bits that are changed here are reflected in Par 152 [Applied LogicCmd]. Note: Bits 4 through 9 are NOT recalled from Control EEprom. They will be cleared upon drive powerup or following an EEprom recall operation.	<table><tr><td>Options</td><td>PI Trim Rst</td><td>PI Trim Hold</td><td>Position En</td><td>PI Trim En</td><td>Frict Comp</td><td>Inertia Comp</td><td>Ext Flt/Alm</td><td>Reserved</td><td>Reserved</td><td>SReg IntgRst</td><td>SReg IntgHld</td><td>SpdRamp Hold</td><td>Time Axis En</td><td>TachLoss Rst</td><td>Spd S Crv En</td><td>SpdRamp Dsbl</td><td></td></tr><tr><td>Default</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0 = False 1 = True</td></tr><tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td><td></td></tr></table>	Options	PI Trim Rst	PI Trim Hold	Position En	PI Trim En	Frict Comp	Inertia Comp	Ext Flt/Alm	Reserved	Reserved	SReg IntgRst	SReg IntgHld	SpdRamp Hold	Time Axis En	TachLoss Rst	Spd S Crv En	SpdRamp Dsbl		Default	0	0	0	0	0	0	0	x	x	0	0	0	0	0	0	0	0 = False 1 = True	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																	
Options	PI Trim Rst	PI Trim Hold	Position En	PI Trim En	Frict Comp	Inertia Comp	Ext Flt/Alm	Reserved	Reserved	SReg IntgRst	SReg IntgHld	SpdRamp Hold	Time Axis En	TachLoss Rst	Spd S Crv En	SpdRamp Dsbl																																																																																								
Default	0	0	0	0	0	0	0	x	x	0	0	0	0	0	0	0	0 = False 1 = True																																																																																							
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																																								
152	Applied LogicCmd Displays the 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. Note: Bits 7 & 8 were changed to "Reserved" for firmware version 2.004.	<table><tr><td>Options</td><td>Reserved</td><td>Spd Ref Sel2</td><td>Spd Ref Sel1</td><td>Spd Ref Sel0</td><td>Reserved</td><td>Reserved</td><td>Coast Stop</td><td>CurLim Stop</td><td>Jog 2</td><td>Reserved</td><td>Reverse</td><td>Forward</td><td>Clear Fault</td><td>Jog 1</td><td>Start</td><td>Normal Stop</td><td>PI Trim Rst</td><td>PI Trim Hold</td><td>Position En</td><td>PI Trim En</td><td>Frict Comp</td><td>Inertia Comp</td><td>Ext Flt/Alm</td><td>Reserved</td><td>Reserved</td><td>SReg IntgRst</td><td>SReg IntgHld</td><td>SpdRamp Hold</td><td>Time Axis En</td><td>TachLoss Rst</td><td>Spd S Crv En</td><td>SpdRamp Dsbl</td><td></td></tr><tr><td>Default</td><td>x</td><td>0</td><td>0</td><td>0</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0 = False 1 = True</td></tr><tr><td>Bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table>	Options	Reserved	Spd Ref Sel2	Spd Ref Sel1	Spd Ref Sel0	Reserved	Reserved	Coast Stop	CurLim Stop	Jog 2	Reserved	Reverse	Forward	Clear Fault	Jog 1	Start	Normal Stop	PI Trim Rst	PI Trim Hold	Position En	PI Trim En	Frict Comp	Inertia Comp	Ext Flt/Alm	Reserved	Reserved	SReg IntgRst	SReg IntgHld	SpdRamp Hold	Time Axis En	TachLoss Rst	Spd S Crv En	SpdRamp Dsbl		Default	x	0	0	0	x	x	0	0	0	x	0	0	0	0	0	0	0	0	0	0	0	0	x	x	0	0	0	0	0	0	0 = False 1 = True	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			
Options	Reserved	Spd Ref Sel2	Spd Ref Sel1	Spd Ref Sel0	Reserved	Reserved	Coast Stop	CurLim Stop	Jog 2	Reserved	Reverse	Forward	Clear Fault	Jog 1	Start	Normal Stop	PI Trim Rst	PI Trim Hold	Position En	PI Trim En	Frict Comp	Inertia Comp	Ext Flt/Alm	Reserved	Reserved	SReg IntgRst	SReg IntgHld	SpdRamp Hold	Time Axis En	TachLoss Rst	Spd S Crv En	SpdRamp Dsbl																																																																								
Default	x	0	0	0	x	x	0	0	0	x	0	0	0	0	0	0	0	0	0	0	0	0	x	x	0	0	0	0	0	0	0 = False 1 = True																																																																									
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																								
Speed Reference Select Inputs																																																																																																								
Bit	30	29	28																																																																																																					
	Spd Ref Sel2	Spd Ref Sel1	Spd Ref Sel0	Auto Reference Source																																																																																																				
	0	0	0	Speed Ref A Sel																																																																																																				
	0	0	1	Speed Ref B Sel																																																																																																				
	0	1	0	Preset Speed 2																																																																																																				
	0	1	1	Preset Speed 3																																																																																																				
	1	0	0	Preset Speed 4																																																																																																				
	1	0	1	Preset Speed 5																																																																																																				
	1	1	0	Preset Speed 6																																																																																																				
	1	1	1	Preset Speed 7																																																																																																				
To access Preset Speed 1, set parameter 27 [Speed Ref A Sel] or 28 [Speed Ref B Sel] to 5 - "Preset Spd 1."																																																																																																								

To access Preset Speed 1, set parameter 27 [Speed Ref A Sel] or 28 [Speed Ref B Sel] to 5 - "Preset Spd 1."

No.

153

Name

Description

Control Options

Set bits to configure the options for operating the drive. Note: Bit 3 “Flying Start” was added for firmware version 2.004. Bit 20, 21, and 29 were added for firmware version 3.001. Added bit 31 “Ids Test Enable” for firmware version 4.001.

Options

Ids Test Enable

Sys Inrt En

Slip Test En

PM Offset En

Pwr Diag En

Trq Trim En

MC Atune En

Time Axis En

PITrim EnOut

Reserved

Inrt TrqLPEn

Motor OL Ret

Slip Comp En

SpdRegPreset

Aux Pwr Sply

Auto Tach Sw

Reserved DM

Reserved DM

OL ClslpDsbl

Jog -NoInteg

Iq Delay

Motor Dir

Reserved

3WireControl

Trq DsblZSpd

Trq StopRamp

Jog - NoRamp

Jog in Trq

Flying Start

SErrFlt1Stg

SRef Ldlg En

Bipolar SRef

Default

0

0

0

0

0

0

0

0

x

1

0

0

0

0

0

0

0

0

0

0

0

0

0

1

0

0

0

0

1

0

0

1

Bit

31

30

29

28

27

26

25

24

23

22

21

20

19

18

17

16

15

14

13

12

11

10

9

8

7

6

5

4

3

2

1

0

0 = False

1 = True

Bit

Name

Current Function

0

Bipolar SRef

When this bit is enabled a bipolar speed reference is used. In bipolar reference mode, [Par 40](#) [Selected Spd Ref] indicates both the speed magnitude and the direction: Positive speed reference values (+) = forward direction and negative speed reference values (-) = reverse direction. When this bit is disabled a unipolar speed reference is used. In unipolar mode, the speed reference is limited to a minimum value of zero (0). In this case Par 40 [Selected Spd Ref] supplies only the speed magnitude. The direction is determined by [Par 152](#) [Applied LogicCmd] bits 20 “Forward” and 21 “Reverse”. The forward/reverse direction button on the HIM is one possible source for the Applied Logic Command direction bits. The following chart explains the effect that the direction button on the HIM has based on the condition of the “Bipolar SRef” bit:

Bipolar Enabled	Reference Controlled By HIM?	HIM Direction Button
Enabled	Yes	Changes the motor direction due to a HIM supplied (+) or (-) command signal.
Enabled	No	Has no effect on motor direction. Direction determined by sign of Par 40 [Selected Spd Ref].
Disabled	Yes	Changes the motor direction due to a HIM supplied Forward or Reverse Logic Command bit.
Disabled	No	Changes the motor direction due to a HIM supplied Forward or Reverse Logic Command bit.

In either Bipolar or Unipolar mode, the selected direction can be determined from the sign of [Par 41](#) [Limited Spd Ref]. Positive values indicate forward rotation and negative values indicate reverse rotation.

1

SRef Ldlg En

Enables/disables the Speed Reference Lead Lag Filter

2

SErrFlt1Stg

Setting this bit will configure the speed error filter as a single first order low pass filter. Clearing this bit will configure the speed error filter as two cascaded first order low pass filters

3

Flying Start

Enables/disables the function which reconnects to a spinning motor at actual rpm when a start command is issued

4

Jog in Torq

Overrides [Par 110](#) [Speed/TorqueMode] setting when a jog command is received

5

Jog-NoRamp

Bypasses the Speed Reference Ramp and S-Curve

6

Trq StopRamp

Overrides Par 110 [Speed/TorqueMode] setting when stopping

7

Trq DsblZSpd

Configures how the drive uses stop dwell time

8

3WireControl

Configures the drive for 3-wire control

10

Motor Dir

Changes direction of the motor rotation

11

Iq Delay

Enables the Torque Current Delay option

12

Jog-NoInteg

Configures the speed regulator’s integrator to “hold” when jogging

13

OL ClslpDsbl

Overload Closeloop Calculation Disable

14

Reserved DM

Reserved for use by the Drive module for “Invert Speed Feedback”

15

Reserved DM

Reserved for use by the Drive module for “Invert Motor Torque Current”

16

Auto Tach Sw

Switches the drive to secondary motor feedback. This bit cannot be set when Par 485 [Motor Ctrl Mode] = 2 “PMag Motor”.

17

Aux Pwr Sply

Enables the use of an auxiliary power supply. When set to 1, the Main Control Board (MCB) examines internal 12V DC power to see when it is energized. When set to 0, the MCB examines the voltage of the DC Bus. This bit enables the MCB to remain energized when 3-Ø voltage is de-energized.

18

SpdRegPreset

When set to “1”, this bit selects [Par 303](#) [Motor Torque Ref] for the Speed Regulator preset. When set to “0”, [Par 87](#) [SReg Trq Preset] is selected.

19

Slip Comp

Enables slip compensation

20

Motor OL Ret

Enables motor over-load retention

21

Inrt TrqLPEn

Enables the Inertia Compensation Torque Output Low Pass Filter

23

PITrim EnOut

Enables the output of Process Trim

24

Time Axis En

Ramps the output of the Time Function Generator

25

MC Atune En

Enables Autotune tests

26

Trq Trim En

Enables Torque Trim

27

Pwr Diag En

Enables the Power Diagnostic test

28

PM Offset En

Enables the Permanent Magnet Motor offset test

29

Slip Test En

Enables the Slip Frequency Auto-Tune function

30

Sys Inrt En

Enables the System Inertia test

31

Ids Test Enable

Enables the flux producing (d-axis) current test for the Field Oriented Control (FOC) encoder mode

No.	Name Description	Values	Linkable	Read-Write	Data Type																												
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. For more information, please see Stop Dwell Time on page 183 . Important: Consult industry and local codes when setting the value of this parameter.	Default: 0.0000 Min/Max: 0.0000/10.0000 Units: s	✓	RW	Real																												
155	Logic Status Displays the status - condition of the drive.																																
Options																																	
	LogixPresent	Spd Ref Act2	Spd Ref Act1	Spd Ref Act0	Reserved	RunCommanded	Start Active	PositionMode	Speed Mode	Torque Mode	Hw Enable On	Spd Commis	MC Commis	MC Active	Above Setpt2	At Setpt 1	Enable On	At Setpt Spd	At Zero Spd	Tach Loss Sw	At Limit	Ready	Flash Mode	Alarm	Faulted	Jogging	Decelerating	Accelerating	Actual Dir	Command Dir	Running	Active	
Default	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
0 = False 1 = True																																	
Bit	Name	Current Function															Bit	Name	Current Function														
0	Active	Drive is controlling motor															15	Enable On															
1	Running	Run command received & controlling motor															16	At Setpt 1	Par 172 value is within limits defined by Par 173 and Par 174														
2	Command Dir	Commanded direction is forward															17	Above Setpt 2	Par 175 value is within limits defined by Par 176 and Par 177														
3	Actual Dir	Actual motor direction is forward															18	MC Active	Drive is controlling motor (same as enabled)														
4	Accelerating	Motor is increasing speed															19	MC Commis	Motor control commissioning in progress														
5	Decelerating	Motor is decreasing speed															20	Spd Commis	Speed control commissioning in progress														
6	Jogging	Jog command received & controlling motor															21	Hw Enable On															
7	Faulted	Exception event that causes a fault has occurred															22	Torque Mode	Par 110 value is 2, 3, 4, 5 or 6														
8	Alarm	Exception event that causes an alarm has occurred															23	Speed Mode	Par 110 value is 1 & position control is not enabled														
9	Flash Mode	Flash upgrade in progress															24	Position Mode	Position control active & Par 110 value is not 2, 3, 4, 5 or 6														
10	Ready	Enable input is high & drive is fault free															25	Start Active	Start command received & controlling motor														
11	At Limit	Speed, Power, Current or Torque is being limited, refer to Par 304															26	Command Run	Run command received														
12	Tach Loss SW	Failure is detected in primary speed or position feedback device & drive has switched to secondary device															28-30	Spd Ref Act1-3															
13	At Zero Spd	Speed feedback is within limits defined in Par 160															31	LogixPresent															
14	At Setpt Spd	Speed feedback is within limits defined in Par 41 and Par 171																															
156	Start Inhibits Indicates which condition is preventing the drive from starting or running. - Bit 16 "GateShutDown" is set when the shunt jumper in the 16-15 position on the Main Control board is missing and a Safe-Off option board is not present. - Bit 17 "SafeOff Enbl" is set when the HW Enable jumper (P22) is in the Bypass position (on pins 1&3) and the Safe-Off option board is present. A HW Enable is required when a safe-off board is used. - Bit 21 "Sleep Stop" is set when the sleep mode has stopped the drive. - Bit 22 "Sleep Config" is set when sleep mode has not been setup correctly. Check the sleep/wake levels and digital input configuration. Note: Bit 18 "MC Config" was added to this parameter for firmware version 2.003. Added bit 20 "High BusVolt" for firmware version 4.001. Bits 21 and 22 were added for firmware version 5.002.																																
Options																																	
	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Sleep Config	Sleep Stop	High BusVolt	Reserved	MC Config	SafeOff Enbl	GateShutDown	PositFdbkSel	PM Mtr Fdbk	Motin Shdwn	DigIn Config	Bus PreChrg	Encoder PPR	Jog	Start	Flash Upgrd	Power EE	Power Loss	SW I Lim Stp	SW Coast Stp	SW Ramp Stop	No Enable	Faulted	
Default	x	x	x	x	x	x	x	x	x	0	0	0	x	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
0 = False 1 = True																																	

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																																																																			
157	Logic Ctrl State Indicates which logic control functions are enabled. • Bit 22 "S Tst FulSpd" set to "1" indicates that the Slip Auto Tune function is active • Bit 23 "Slip Test En" set to "1" indicates that the drive is at speed for the Auto Tune function. Notes: Bits 22 and 23 were added for firmware version 3.001. Bit 14 "DC Brake En" is not functional.	<table><tr><th>Options</th><th>ProcsTrim En</th><th>Cmd Dir Upol</th><th>Lgx I/O Cnx</th><th>Lgx Run Mode</th><th>Reserved</th><th>VP Gate Enbl</th><th>MC Gate Enbl</th><th>Ramp Hold</th><th>Slip Test En</th><th>S Tst FulSpd</th><th>PM Offset Rq</th><th>Mtr Dir Req</th><th>Pwr Diag Req</th><th>MC Atune Req</th><th>FTD Ramp EN</th><th>MC En Req</th><th>RThru Flux</th><th>DC Brake En</th><th>Mtr Sim Mode</th><th>RThru Coast</th><th>CurRef En</th><th>Forced Spd</th><th>Trq Ref En</th><th>Spd Reg En</th><th>SRReg IntgHld</th><th>CurLim Stop</th><th>J Tst FulSpd</th><th>Inert Tst En</th><th>PositionEnbl</th><th>SRRef SCrv En</th><th>SRRef Ramp En</th><th>Spd Ref En</th></tr><tr><td>Default</td><td>0</td><td>0</td><td>0</td><td>0</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True	Options	ProcsTrim En	Cmd Dir Upol	Lgx I/O Cnx	Lgx Run Mode	Reserved	VP Gate Enbl	MC Gate Enbl	Ramp Hold	Slip Test En	S Tst FulSpd	PM Offset Rq	Mtr Dir Req	Pwr Diag Req	MC Atune Req	FTD Ramp EN	MC En Req	RThru Flux	DC Brake En	Mtr Sim Mode	RThru Coast	CurRef En	Forced Spd	Trq Ref En	Spd Reg En	SRReg IntgHld	CurLim Stop	J Tst FulSpd	Inert Tst En	PositionEnbl	SRRef SCrv En	SRRef Ramp En	Spd Ref En	Default	0	0	0	0	x	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0				
Options	ProcsTrim En	Cmd Dir Upol	Lgx I/O Cnx	Lgx Run Mode	Reserved	VP Gate Enbl	MC Gate Enbl	Ramp Hold	Slip Test En	S Tst FulSpd	PM Offset Rq	Mtr Dir Req	Pwr Diag Req	MC Atune Req	FTD Ramp EN	MC En Req	RThru Flux	DC Brake En	Mtr Sim Mode	RThru Coast	CurRef En	Forced Spd	Trq Ref En	Spd Reg En	SRReg IntgHld	CurLim Stop	J Tst FulSpd	Inert Tst En	PositionEnbl	SRRef SCrv En	SRRef Ramp En	Spd Ref En																																																																								
Default	0	0	0	0	x	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																																																									
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																								
158	Drive Logic Rslt This is the logic output of the logic parser that combines the outputs from the DPI ports and the DriveLogix controller to determine drive control based on the masks and owners. The control bits are reflected in Par 152 [Applied LogicCmd] bits 16-31.	<table><tr><th>Options</th><th>Reserved</th><th>Spd Ref Sel2</th><th>Spd Ref Sel1</th><th>Spd Ref Sel0</th><th>Reserved</th><th>Reserved</th><th>Coast Stop</th><th>CurLim Stop</th><th>Jog 2</th><th>Reserved</th><th>Reverse</th><th>Forward</th><th>Clear Fault</th><th>Jog 1</th><th>Start</th><th>Normal Stop</th><th>Reserved</th><th>Spd Ref Sel2</th><th>Spd Ref Sel1</th><th>Spd Ref Sel0</th><th>Reserved</th><th>Reserved</th><th>Coast Stop</th><th>CurLim Stop</th><th>Jog 2</th><th>Reserved</th><th>Reverse</th><th>Forward</th><th>Clear Fault</th><th>Jog 1</th><th>Start</th><th>Normal Stop</th></tr><tr><td>Default</td><td>x</td><td>0</td><td>0</td><td>0</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>x</td><td>0</td><td>0</td><td>0</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True	Options	Reserved	Spd Ref Sel2	Spd Ref Sel1	Spd Ref Sel0	Reserved	Reserved	Coast Stop	CurLim Stop	Jog 2	Reserved	Reverse	Forward	Clear Fault	Jog 1	Start	Normal Stop	Reserved	Spd Ref Sel2	Spd Ref Sel1	Spd Ref Sel0	Reserved	Reserved	Coast Stop	CurLim Stop	Jog 2	Reserved	Reverse	Forward	Clear Fault	Jog 1	Start	Normal Stop	Default	x	0	0	0	x	x	0	0	0	x	0	0	0	0	0	0	x	0	0	0	x	x	0	0	0	x	0	0	0	0	0	0	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			
Options	Reserved	Spd Ref Sel2	Spd Ref Sel1	Spd Ref Sel0	Reserved	Reserved	Coast Stop	CurLim Stop	Jog 2	Reserved	Reverse	Forward	Clear Fault	Jog 1	Start	Normal Stop	Reserved	Spd Ref Sel2	Spd Ref Sel1	Spd Ref Sel0	Reserved	Reserved	Coast Stop	CurLim Stop	Jog 2	Reserved	Reverse	Forward	Clear Fault	Jog 1	Start	Normal Stop																																																																								
Default	x	0	0	0	x	x	0	0	0	x	0	0	0	0	0	0	x	0	0	0	x	x	0	0	0	x	0	0	0	0	0	0																																																																								
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																								
159	DigIn ConfigStat This parameter indicates the status of the digital inputs. • If 8 "Sleep Config" is displayed, the sleep mode has not been set up correctly. Check the values of parameters 280 [Wake Level] and 282 [Sleep Level] to verify that they are not set outside the bounds of the analog input. Also verify the digital input configuration. See Figure 9 on page 185 for more information on Sleep / Wake Mode configuration. Note: Value 8 "Sleep Config" was added for firmware version 5.002.	Default: 0 = "DigIn Ok" Options: 0 = "DigIn Ok" 4 = "Strt+UnLatch" 1 = "2 Run/Starts" 5 = "2 Jog1's" 2 = "Start NoStop" 6 = "2 Jog2's" 3 = "Run+Latched" 7 = "2Fwd's/Rev's" 8 = "Sleep Config"																																																																																																						
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.	Default: 17.6400 Min/Max: 0.0000/882.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.	☒	RW	Real																																																																																																			
161	Logic TP Sel Enter or write a value to select logic status indication displayed in Par 162 [Logic TP Data].	Default: 0 = "Zero" Options: 0 = "Zero" 28 = "Sys Friction" 1 = "Avg Spd Ref" 29 = "Iq proc time" 2 = "Avg Spd Fdbk" 30 = "Enable Inhib" 3 = "LastStopMode" 31 = "DI Src Index" -(0=None) 32 = "DI SrcRevIdx" -(1=Coast) 33 = "DI TrendTrig" -(2=Current Limit) 34 = "DI Prchg Ena" -(3=Ramp) 35 = "Enable State" -(4=Torque Mode) 36 = "LID Revision" 4 = "Spd Ref Sel" 37 = "DI MOP Incr" 5 = "Start State" 38 = "DI MOP Decr" 6 = "Run State" 39 = "DI MOP Reset" 7 = "Stop State" 40 = "Cmd Term Blk" 8 = "PrChrg Logic" 41 = "Cmd DPI 1" 9 = "Meas State" 42 = "Cmd DPI 2" 10 = "Data State" 43 = "Cmd DPI 3" 11 = "Diag State" 44 = "Cmd DPI 4" 12 = "MC CalcState" 45 = "Cmd DPI 5" 13 = "Task 1 time" 46 = "Cmd DPI 6" 14 = "Task 1 max" 47 = "Cmd ELC" 15 = "Task 2 time" 48 = "Cmd Debugger" 16 = "Task 2 max" 49 = "Reserved" 17 = "Task 3 time" 50 = "SelSw Posit" 18 = "Task 3 max" 51 = "DI SelSw 00" 19 = "BkGnd Time" 52 = "DI SelSw 01" 20 = "BkGnd Max" 53 = "DI SelSw 02" 21 = "Task 1 %" 54 = "DI SelSw 03" 22 = "Task 2 %" 55 = "Ids Motoring" 23 = "Task 3 %" 56 = "IqsRef Motor" 24 = "BkGnd %" 57 = "Ids Regen" 25 = "RThru State" 58 = "IqsRef Regen" 26 = "RThru Timer" 27 = "Health State"																																																																																																						

No.	Name Description	Values	Linkable	Read-Write	Data Type
162	Logic TP Data Displays the indication selected by Par 161 [Logic TP Sel].	Default: 0.0000 Min/Max: -/+2200000000.0000		RO	Real
163	Stop Oper TP Sel Enter or write a value to select data displayed in Par 164 [StpOper TPData] at the time of the last initiated stop.	Default: 0 = "Zero" Options: 0 = "Zero" 14 = "ZM1 Spd Fdbk" 1 = "Logic State" 15 = "Speed Ref" 2 = "Logic Input" 16 = "Avg Spd Ref" 3 = "Lcl In State" 17 = "ZM1 Spd Ref" 4 = "Logic Status" 18 = "SReg Pl Out" 5 = "Run Inhibit" 19 = "Trq Ref" 6 = "Logic Ctrl" 20 = "TrqRef Stat" 7 = "Mtr Ctrl Cmd" 21 = "DC Bus Volts" 8 = "Mtr Ctrl Ack" 22 = "Motor Volts" 9 = "Reserved" 23 = "Mtr Current" 10 = "Flt Status 1" 24 = "Motor Flux" 11 = "Flt Status 2" 25 = "Motor Freq" 12 = "Motor Speed" 26 = "Motor Power" 13 = "Avg Spd Fdbk" 27 = "Flt Status 3"			
164	StopOper TP Data Displays the data selected by Par 163 [Stop Oper TP Sel].	Default: 0 Min/Max: -/+2147483648		RO	32-bit Integer
165	Tune Test Status Indicates which test (if any) is in progress. • Value 7 is retained and is used to continue the Auto Tune test from the last point at which it was stopped. Notes: Value 5 was changed to "Reserved" for firmware version 2.004. Value 7 "Mtr+Sys J" was changed to "Slip Test" for firmware version 3.001. Value 8 "Find Home" was added for firmware version 3.003.	Default: 0 = "None" Options: 0 = "None" 5 = "Reserved" 1 = "MC Autotune" 6 = "Sys Inertia" 2 = "Power Diag" 7 = "Slip Test" 3 = "Motor Direct" 8 = "Find Home" 4 = "PM Offset"			
166 A	Motor Ctrl Cmmnd Displays the command bits to the Motor Control Processor from the Velocity Processor.	Options Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Fault Reset Reserved Base Block Reserved Reserved Torque Run Flux Run CP Enable Default x x x x x x x x x x x x x x x x 0 x x x x x x x x 0 0 0 0 0 0 0 0 Bit 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 0 = False 1 = True			
167 A	Motor Ctrl Ackn Displays the Motor Control Processor's acknowledgment to the Velocity Processor for the Motor Control Command bits.	Options Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Fault Reset Reserved Power Diag Precharge Torque Run Flux Run CP Enable Default x x x x x x x x x x x x x x x x 0 x x x x x x x x 0 0 0 0 0 0 0 0 Bit 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 0 = False 1 = True			
168	Normal Stop Mode Sets the method of stopping the drive when a stop command is given. Normal Stop command and the RUN input changing from true to false will command a Normal Stop. Ramp Stop = decelerates to zero speed at the decel rate CurLim Stop = Max torque / current applied until zero speed Coast Stop = power removed from motor, motor coasts to zero	Default: 0 = "Ramp Stop" Options: 0 = "Ramp Stop" 1 = "CurLim Stop" 2 = "Coast Stop"			
169	SrLss ZeroSpdLim Functionally equivalent to Par 160 [Zero Speed Lim], but is used exclusively in Sensorless speed mode. The value is automatically set from Par 3 [Motor NP Hertz], Par 4 [Motor NP RPM] or Par 7 [Motor Poles]. The automatic setting corresponds to the rated slip speed of the motor (synchronous speed - nameplate speed). The value can be manually set.	Default: 49.9975 Min/Max: 0.0000/875.0000 Units: rpm	✓	RW	Real
170 A	Flying StartGain This parameter is currently not used. Note: This parameter was added for firmware version 2.003.	Default: 4000 Min/Max: 0/32767		RW	16-bit Integer

No.	Name Description	Values	Linkable	Read-Write	Data Type
171	Set Speed Lim Creates a tolerance - hysteresis band around the value in Par 41 [Limited Spd Ref] for comparison to average speed feedback. The comparison controls bit 14 "At Setpt Spd" of Par 155 [Logic Status]. In general bit 14 "At Setpt Spd" turns on when the feedback is within the tolerance of the reference. - 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).	Default: 17.6400 Min/Max: 0.0000/882.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.	✓	RW	Real
172	Setpt 1 Data Provides data for comparison to Par 173 [Setpt1 TripPoint], driving bit 16 "At Setpt 1" of Par 155 [Logic Status]. For more information, please see Setpt 1 Data on page 182 .	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: P.U.	✓	RW	Real
173	Setpt1 TripPoint Provides the midpoint for operation of bit 16 "At Setpt 1" of Par 155 [Logic Status].	Default: 0.1000 Min/Max: -/+8.0000 P.U. Units: P.U.	✓	RW	Real
174	Setpt 1 Limit Creates a tolerance - hysteresis band around the value in Par 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).	Default: 0.0100 Min/Max: 0.0000/0.5000 Units: P.U.	✓	RW	Real
175	Setpt 2 Data Provides data for comparison to Par 176 [Setpt2 TripPoint], driving bit 17 "Above Setpt 2" of Par 155 [Logic Status]. For more information, please see Setpt 2 Data on page 182 .	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: P.U.	✓	RW	Real
176	Setpt2 TripPoint Provides the midpoint for operation of bit 17 "Above Setpt 2" of Par 155 [Logic Status].	Default: 0.2000 Min/Max: -/+8.0000 P.U. Units: P.U.	✓	RW	Real
177	Setpt 2 Limit Creates a tolerance - hysteresis band around the value in Par 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.	Default: 0.0100 Min/Max: 0.0000/0.5000 Units: P.U.	✓	RW	Real
178	PI TP Sel Enter or write a value to select Process Control PI data displayed by Par 179 [PI TP Data]. The values for options 1 & 8 were changed to "Reserved" for firmware version 2.004.	Default: 0 = "Zero" Options: 0 = "Zero" 7 = "Status Hold" 1 = "Reserved" 8 = "Reserved" 2 = "LPF Output" 9 = "Reset Status" 3 = "P Gain Term" 10 = "Time Axis En" 4 = "Reg Output" 11 = "Enbl Status" 5 = "On Intg Lim" 12 = "Out Max Lim" 6 = "On Out Limit" 13 = "Out Min Lim"			
179	PI TP Data Displays the data selected by Par 178 [PI TP Sel].	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: P.U.		RO	Real
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.	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: P.U.		RO	Real
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.	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: P.U.	✓	RW	Real
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.	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: P.U.	✓	RW	Real
183	PI Error Displays the error of the process trim reference minus the process trim feedback.	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: P.U.		RO	Real
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 Par 181 [PI Reference] and Par 182 [PI Feedback]. The output of this filter is used as the input to the process control regulator.	Default: 0.0000 Min/Max: 0.0000/500.0000 Units: rad/s	✓	RW	Real
185	PI Preload Presets the integrator of the Process Control regulator.	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: P.U.	✓	RW	Real

No.	Name Description	Values	Linkable	Read-Write	Data Type
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 P.U. for 1 P.U. error.	Default: 8.0000 Min/Max: 0.0000/200.0000	✓	RW	Real
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 P.U. in 1 second for 1 P.U. error.	Default: 8.0000 Min/Max: 0.0000/4000.0000 Units: /s	✓	RW	Real
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.	Default: 0.1000 Min/Max: 0.0000/8.0000 Units: P.U.	✓	RW	Real
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.	Default: -0.1000 Min/Max: -8.0000/0.0000 Units: P.U.	✓	RW	Real
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.	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: P.U.		RO	Real
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.	Default: 0.1000 Min/Max: 0.0000/8.0000 Units: P.U.	✓	RW	Real
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.	Default: -0.1000 Min/Max: -8.0000/0.0000 Units: P.U.	✓	RW	Real
196	ParamAccessLevel The value of this parameter establishes the level of parameter access for the Human Interface Module (HIM). • Value 0 - Basic grants access to the minimum number of parameters • Value 1 - Advanced grants access to a larger group of parameters	Default: 0 = "Basic" Options: 0 = "Basic" 1 = "Advanced"		RW	16-bit Integer
201	Language Selects the display language when using an LCD HIM. Currently, only option 0 - "English" is available.	Default: 0 = "English" Options: 0 = "English" 1 = "Alt Language"		RW	16-bit Integer
202	Time Axis Rate Sets rate (1/sec) for the Time Function Generator to ramp from an output of 0 to 1 and from 1 to 0.	Default: 1.0000 Min/Max: 0.0100/20.0000 Units: /s	✓	RW	Real
203	Time Axis Output The output of the Time Function Generator. When the Time Function Generator is enabled by Par 151 [Logic Command] bit 3 "Time Axis En", or Par 153 [Control Options], bit 24 "Time Axis En", the value of this parameter ramps from 0 to 1 at a rate determined by Par 202 [Time Axis Rate]. Conversely, when the Time Function Generator is disabled, the value of this parameter ramps from 1 to 0.	Default: 0.0000 Min/Max: 0.0000/1.0000		RO	Real
204	LimGen Y axis Mx Sets Par 207 [Limit Gen Hi Out] and Par 208 [Limit Gen Lo Out] when the absolute value of Par 206 [LimGen X axis In] is greater than or equal to 1.	Default: 0.2500 Min/Max: 0.0000/8.0000 Units: P.U.	✓	RW	Real
205	LimGen Y axis Mn Sets Par 207 [Limit Gen Hi Out] and Par 208 [Limit Gen Lo Out] when the absolute value of Par 206 [LimGen X axis In] is equal to 0.	Default: 0.0500 Min/Max: 0.0000/8.0000 Units: P.U.	✓	RW	Real
206	LimGen X axis In The X axis input to the Limit Generator. Typically this parameter is linked to a speed reference or to Par 203 [Time Axis Output].	Default: 0.0000 Min/Max: -/+8.0000 P.U.	✓	RW	Real
207	Limit Gen Hi Out Displays the positive output of the Limit Generator. When Par 206 [Limit Gen X axis In] is greater than or equal to 1, this value equals Par 204 [Limit Gen Y axis Mx]. When Par 206 [Limit Gen X axis In] is equal to 0, this value equals Par 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 Par 188 [PI Integ HLim].	Default: 8.0000 Min/Max: 0.0000/8.0000 Units: P.U.		RO	Real
208	Limit Gen Lo Out Displays the negative output of the Limit Generator. The value of this parameter is the negative of Par 207 [Limit Gen Hi Out]. Typically it is linked to Par 189 [PI Integ LLim].	Default: -8.0000 Min/Max: -8.0000/0.0000 Units: P.U.		RO	Real

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																					
210	PeakDtct Ctrl In Sets the configuration of the two peak/level detectors. Peak detection (when “set” and “hold” are off) causes the output to capture the peak min./max. - Bit 2 “Peak1SelHigh” and bit 6 “Peak2SelHigh” determine if the peak/level detector is positive or 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 “valleys” or levels below the preset. The output shows the min. or max. peak. - Bit 0 “Peak 1 Set” bit is used to reset the output to the value in Par 214 [PeakDtct1 Preset] (default 0). Bit 4 “Peak 2 Set” bit is used to reset the output to the value in Par 218 [PeakDtct2 Preset] (default 0). - Bit 1 “Peak 1 Hold” is used to hold the output at the present value in Par 214 [PeakDtct1 Preset]. Bit 5 “Peak 2 Hold” is used to hold the output at the present value in Par 218 [PeakDtct2 Preset]. Options <table><tr><td></td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Peak2SelHigh</td><td>Peak 2 Hold</td><td>Peak 2 Set</td><td>Reserved</td><td>Peak1SelHigh</td><td>Peak 1 Hold</td><td>Peak 1 Set</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td><td></td></tr></table> 0 = False 1 = True		Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Peak2SelHigh	Peak 2 Hold	Peak 2 Set	Reserved	Peak1SelHigh	Peak 1 Hold	Peak 1 Set	Default	x	x	x	x	x	x	x	x	x	x	0	0	0	0	0	0	0	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0				
	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Peak2SelHigh	Peak 2 Hold	Peak 2 Set	Reserved	Peak1SelHigh	Peak 1 Hold	Peak 1 Set																																									
Default	x	x	x	x	x	x	x	x	x	x	0	0	0	0	0	0	0																																									
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																										
211	PeakDtct Status Status of peak/level detectors. A peak detector sets its “Change” bit for one scan when it detects a peak. The “Change” bit is off when set or when the “Hold” bit is on. Options <table><tr><td></td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Peak 2 Chng</td><td>Peak 1 Chng</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True		Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Peak 2 Chng	Peak 1 Chng	Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0						
	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Peak 2 Chng	Peak 1 Chng																																										
Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0																																										
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																										
212	PkDtct1 In DInt Integer input to the first peak/level detector.	Default: 0 Min/Max: -/+2147483648	✓	RW	32-bit Integer																																																					
213	PkDtct1 In Real Floating point input to the first peak/level detector.	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real																																																					
214	PeakDtct1 Preset 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: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real																																																					
215	PeakDetect1 Out Output from the first peak/level detector.	Default: 0.0000 Min/Max: -/+2200000000.0000		RO	Real																																																					
216	PkDtct2 In DInt Integer input to second peak/level detector.	Default: 0 Min/Max: -/+2147483648	✓	RW	32-bit Integer																																																					
217	PkDtct2 In Real Floating point input to second peak/level detector.	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real																																																					
218	PeakDtct2 Preset 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: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real																																																					
219	PeakDetect2 Out Output from the second peak/level detector.	Default: 0.00 Min/Max: 0.00/1200.00		RO	Real																																																					
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.	Default: 0.0 Min/Max: -/+8.0 P.U. Units: P.U.		RO	Real																																																					
222	 Mtr Fdbk Sel Pri Selects primary feedback device. The primary feedback device configuration must not be set to fault on an event in order to allow operational feedback switch over to the alternate feedback device set in Par 223 [Mtr Fdbk Sel Alt]. Notes: Par 485 [Motor Ctrl Mode] must be set to FOC for Sensorless feedback selection to be active. Selection 5 is only available when compatible feedback option card is installed. This parameter was changed to non-linkable for firmware version 3.001.	Default: 0 = “Encoder 0” Options: 0 = “Encoder 0” 1 = “Encoder 1” 2 = “Sensorless” 3 = “Reserved” 4 = “Motor Sim” 5 = “FB Opt Port0”																																																								
223	 Mtr Fdbk Sel Alt Selects alternate feedback device if the feedback device selected in Par 222 [Mtr Fdbk Sel Pri] fails. Notes: Par 485 [Motor Ctrl Mode] must be set to FOC for Sensorless feedback selection to be active. Selection 5 is only available when compatible feedback option card is installed. This parameter was changed to non-linkable for firmware version 3.001.	Default: 2 = “Sensorless” Options: 0 = “Encoder 0” 1 = “Encoder 1” 2 = “Sensorless” 3 = “Reserved” 4 = “Motor Sim” 5 = “FB Opt Port0”																																																								

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																																																																																																																
224	TachSwitch Level Sets the detection level for the automatic tach loss switchover routine. A drop in feedback speed at this percent of rated speed over 0.5 msec will cause a tach switch from primary to alternate feedback device. This feature is enabled when bit 16 “Auto Tach Sw” in Par 153 [Control Options] is selected. Setting this level lower will make the tach switch detection more sensitive and lower the minimum speed at which a tach switch can occur. Setting this level higher will make the tach switch less sensitive and raise the minimum speed for tach switch detection. Note: This parameter was changed to non-linkable for firmware version 3.001.	Default: 10.0000 Min/Max: 5.0000/25.0000 Units: %		RW	Real																																																																																																																																																
225	 Virtual Edge/Rev Set the edges per revolution (EPR) scaling for calculating motor position. Used in the calculation of the position feedback such as Par 229 [MtrPosit Stimulat].	Default: 4096 Min/Max: 10/16777216 Units: EPR		RW	32-bit Integer																																																																																																																																																
226	Motor Speed Est Displays the estimated motor speed, calculated when the selected feedback is sensorless or when encoderless ridthrough is enabled.	Default: 0.0000 Min/Max: -/+14112.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RO	Real																																																																																																																																																
227	Motor Posit Est Summation (or integration) of Par 226 [Motor Speed Est] scaled by the value in Par 225 [Virtual Edge/Rev].	Default: 0 Min/Max: -/+2147483648		RO	32-bit Integer																																																																																																																																																
228	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 Par 222 [Mtr Fdbk Sel Pri] or Par 223 [Mtr Fdbk Sel Alt].	Default: 0.0000 Min/Max: -/+14112.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RO	Real																																																																																																																																																
229	MtrPosit Simulat 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 Par 222 [Mtr Fdbk Sel Pri] or Par 223 [Mtr Fdbk Sel Alt].	Default: 0 Min/Max: -/+2147483648		RO	32-bit Integer																																																																																																																																																
230	Encdr0 Position Displays the position feedback (accumulator) from encoder 0. The value changes by a value of four times (4x) the Pulses Per Revolution (PPR) rating of the encoder for each full revolution of the encoder shaft. Used by the Velocity Position Loop (VPL) to close the position loop if position control is selected.	Default: 0 Min/Max: -/+2147483648		RO	32-bit Integer																																																																																																																																																
231	Encdr0 Spd Fdbk Displays the speed feedback from encoder 0. Calculated from the change of Par 230 [Encdr0 Position] and Par 232 [Encoder0 PPR].	Default: 0.0000 Min/Max: -/+14112.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RO	Real																																																																																																																																																
232	 Encoder0 PPR Sets the pulse per revolution rating of the feedback device connected to the Encoder 0 input. This parameter must be set to one of the values displayed in bold in Table 232A below. Table 232A: PPR Rating Values <table><tr><th>n =</th><th>2ⁿ =</th><th>x</th><th>mod 75</th><th>mod 125</th><th>mod 225</th><th>mod 375</th><th>mod 625</th><th>mod 1125</th></tr><tr><td>0</td><td>1</td><td></td><td>75</td><td>125</td><td>225</td><td>375</td><td>625</td><td>1125</td></tr><tr><td>1</td><td>2</td><td></td><td>150</td><td>250</td><td>450</td><td>750</td><td>1250</td><td>2250</td></tr><tr><td>2</td><td>4</td><td></td><td>300</td><td>500</td><td>900</td><td>1500</td><td>2500</td><td>4500</td></tr><tr><td>3</td><td>8</td><td></td><td>600</td><td>1000</td><td>1800</td><td>3000</td><td>5000</td><td>9000</td></tr><tr><td>4</td><td>16</td><td></td><td>1200</td><td>2000</td><td>3600</td><td>6000</td><td>10000</td><td>18000</td></tr><tr><td>5</td><td>32</td><td></td><td>2400</td><td>4000</td><td>7200</td><td>12000</td><td>20000</td><td>--</td></tr><tr><td>6</td><td>64</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td></tr><tr><td>7</td><td>128</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td></tr><tr><td>8</td><td>256</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td></tr><tr><td>9</td><td>512</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td></tr><tr><td>10</td><td>1024</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td></tr><tr><td>11</td><td>2048</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td></tr><tr><td>12</td><td>4096</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td></tr><tr><td>13</td><td>8192</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td></tr><tr><td>14</td><td>16384</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td></tr></table>	n =	2 ⁿ =	x	mod 75	mod 125	mod 225	mod 375	mod 625	mod 1125	0	1		75	125	225	375	625	1125	1	2		150	250	450	750	1250	2250	2	4		300	500	900	1500	2500	4500	3	8		600	1000	1800	3000	5000	9000	4	16		1200	2000	3600	6000	10000	18000	5	32		2400	4000	7200	12000	20000	--	6	64	--	--	--	--	--	--	--	7	128	--	--	--	--	--	--	--	8	256	--	--	--	--	--	--	--	9	512	--	--	--	--	--	--	--	10	1024	--	--	--	--	--	--	--	11	2048	--	--	--	--	--	--	--	12	4096	--	--	--	--	--	--	--	13	8192	--	--	--	--	--	--	--	14	16384	--	--	--	--	--	--	--	Default: 1024 Min/Max: 10/20000 Units: PPR		RW	16-bit Integer
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9	512	--	--	--	--	--	--	--																																																																																																																																													
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No.	Name Description	Values	Linkable	Read-Write	Data Type																																																																																																																																																																																	
233	 Encdr 0/1 Config Specifies the configuration options for the encoder 0 and encoder 1. - Bits 0 “Enc0 Filt bt0” through 3 “Enc0 Filt bt3”, or Bits 16 “Enc1 Filt bt0” through 19 “Enc1 Filt bt3” configure the encoder input filter (see Table 233A: Encoder Input Filter Settings). The filter requires the input signal to be stable for the specified time period. Input signal transitions within the filter time setting will be ignored. Bits 0-3 and 16-19 add 100ns filtering per stage to encoder inputs. - Bits 4 “Enc0 4x” and 5 “Enc0 A Phs” or 20 “Enc1 4x” and 21 “Enc1 A Phs” determine how the encoder channel A and B signals will be interpreted. Typically, both encoder phases A and B are used so that direction information is available. Par 230 [Encdr0 Position] counts up for forward rotation and down for reverse rotation. If bit 5 is set, then the B phase signal is ignored. As a result, the encoder position will only increase, regardless of rotation direction. Bits 4 and 5 together also determine the number of edges counted per encoder pulse (see Table 233B: Multiplier and Direction Settings). “4x” sampling counts both rise and fall of both A and B encoder phases, hence 4 edges per pulse. In 4x mode, the encoder position will change by four times the encoder pulses per revolution rating (PPR) per encoder revolution (e.g., it increments the value in Par 230 [Encdr0 Position] by 4096 for one revolution of a 1024 PPR encoder). - Bit 6 “Enc0 Dir” and 22 “Enc1 Dir” inverts the channel A input, thus reversing the direction of the feedback. Note that changes in encoder direction (bit 6 or 22) may require changing Par 153 [Control Options] bit 10 “Motor Dir”. - Bit 7 “Enc0 EdgTime” or bit 23 “Enc1 EdgTime” configures the method of sampling used by the Velocity Position Loop (VPL). Setting the bit chooses “Edge to Edge” sampling, while resetting the bit to zero selects “Simple Difference” sampling. “Simple Difference” sampling calculates speed by examining the difference between pulse counts over a fixed sample time. “Edge to Edge” sampling adjusts the sample time to synchronize with the position count updates from the daughter card - improving the accuracy of the speed calculation. - Bits 10 “En0SmplRate bt0” through 12 “En0SmplRate bt2” or bits 26 “En1SmplRate bt0” through 28 “En1SmplRate bt2” configure the Finite Impulse Response (FIR) Filter (see Table 233C: FIR Filter Settings). This setting reduces the effect of noisy feedback on the system. Refer to the “Speed/Position Feedback” section of the <i>PowerFlex® 700S with Phase II Control Reference Manual</i>, publication PFLEX-RM003 for details. Note: Bit 27 is set to 0 = False by default for firmware version 1.11 and is set to 1 = True by default for firmware version 2.003. <table><tr><th>Options</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Enc1SmplRt b2</th><th>Enc1SmplRt b1</th><th>Enc1SmplRt b0</th><th>Reserved</th><th>Reserved</th><th>Enc1 EdgTime</th><th>Enc1 Dir</th><th>Enc1 A Phs</th><th>Enc1 4x</th><th>Enc1 Filt b3</th><th>Enc1 Filt b2</th><th>Enc1 Filt b1</th><th>Enc1 Filt b0</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>En0SmplRt b2</th><th>En0SmplRt b1</th><th>En0SmplRt b0</th><th>Reserved</th><th>Reserved</th><th>Enc0 EdgTime</th><th>Enc0 Dir</th><th>Enc0 A Phs</th><th>Enc0 4x</th><th>Enc0 Filt b3</th><th>Enc0 Filt b2</th><th>Enc0 Filt b1</th><th>Enc0 Filt b0</th></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>0</td><td>1</td><td>1</td><td>x</td><td>x</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>1</td><td>0</td><td>x</td><td>x</td><td>x</td><td>0</td><td>1</td><td>1</td><td>x</td><td>x</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>1</td><td>0</td></tr><tr><td>Bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True	Options	Reserved	Reserved	Reserved	Enc1SmplRt b2	Enc1SmplRt b1	Enc1SmplRt b0	Reserved	Reserved	Enc1 EdgTime	Enc1 Dir	Enc1 A Phs	Enc1 4x	Enc1 Filt b3	Enc1 Filt b2	Enc1 Filt b1	Enc1 Filt b0	Reserved	Reserved	Reserved	En0SmplRt b2	En0SmplRt b1	En0SmplRt b0	Reserved	Reserved	Enc0 EdgTime	Enc0 Dir	Enc0 A Phs	Enc0 4x	Enc0 Filt b3	Enc0 Filt b2	Enc0 Filt b1	Enc0 Filt b0	Default	x	x	x	0	1	1	x	x	1	0	0	1	1	0	1	0	x	x	x	0	1	1	x	x	1	0	0	1	1	0	1	0	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																																		
Options	Reserved	Reserved	Reserved	Enc1SmplRt b2	Enc1SmplRt b1	Enc1SmplRt b0	Reserved	Reserved	Enc1 EdgTime	Enc1 Dir	Enc1 A Phs	Enc1 4x	Enc1 Filt b3	Enc1 Filt b2	Enc1 Filt b1	Enc1 Filt b0	Reserved	Reserved	Reserved	En0SmplRt b2	En0SmplRt b1	En0SmplRt b0	Reserved	Reserved	Enc0 EdgTime	Enc0 Dir	Enc0 A Phs	Enc0 4x	Enc0 Filt b3	Enc0 Filt b2	Enc0 Filt b1	Enc0 Filt b0																																																																																																																																																						
Default	x	x	x	0	1	1	x	x	1	0	0	1	1	0	1	0	x	x	x	0	1	1	x	x	1	0	0	1	1	0	1	0																																																																																																																																																						
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																																																																																																						
Table 233A: Encoder Input Filter Settings <table><tr><th>Bit</th><th>3/19</th><th>2/18</th><th>1/17</th><th>0/16</th><th>Encoder Bit Filter Settings</th></tr><tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>Filter disabled</td></tr><tr><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>100 ns filter</td></tr><tr><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td><td>200 ns filter</td></tr><tr><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>300 ns filter</td></tr><tr><td>0</td><td>1</td><td>0</td><td>0</td><td>0</td><td>400 ns filter</td></tr><tr><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>500 ns filter</td></tr><tr><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>600 ns filter</td></tr><tr><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td><td>700 ns filter</td></tr><tr><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>800 ns filter (default setting)</td></tr><tr><td>1</td><td>0</td><td>0</td><td>0</td><td>1</td><td>900 ns filter</td></tr><tr><td>1</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1000 ns filter</td></tr><tr><td>1</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1100 ns filter</td></tr><tr><td>1</td><td>1</td><td>0</td><td>0</td><td>0</td><td>1200 ns filter</td></tr><tr><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1300 ns filter</td></tr><tr><td>1</td><td>1</td><td>1</td><td>1</td><td>0</td><td>1400 ns filter</td></tr><tr><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1500 ns filter</td></tr></table> Table 233B: Multiplier and Direction Settings <table><tr><th>Bit</th><th>5/21</th><th>4/20</th><th>Multi</th><th>Directions</th><th>Comments</th></tr><tr><td>0</td><td>0</td><td>2x</td><td>fwd/rev</td><td></td><td>Counts rise/fall of phase A, phase B only used to find direction</td></tr><tr><td>0</td><td>1</td><td>4x</td><td>fwd/rev</td><td></td><td>Counts rise/fall of both A and B phases (default setting)</td></tr><tr><td>1</td><td>0</td><td>1x</td><td>fwd only</td><td></td><td>Counts rise of phase A. Phase B ignored.</td></tr><tr><td>1</td><td>1</td><td>2X</td><td>fwd only</td><td></td><td>Counts rise of phase A. Phase B ignored.</td></tr></table> Table 233C: FIR Filter Settings <table><tr><th>Bit</th><th>12/28</th><th>11/27</th><th>10/26</th><th>Taps</th></tr><tr><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td></tr><tr><td>0</td><td>0</td><td>0</td><td>1</td><td>2</td></tr><tr><td>0</td><td>0</td><td>1</td><td>0</td><td>4</td></tr><tr><td>0</td><td>0</td><td>1</td><td>1</td><td>8</td></tr><tr><td>1</td><td>0</td><td>0</td><td>0</td><td>16</td></tr><tr><td>1</td><td>0</td><td>0</td><td>1</td><td>32</td></tr><tr><td>1</td><td>0</td><td>1</td><td>0</td><td>64</td></tr><tr><td>1</td><td>0</td><td>1</td><td>1</td><td>127</td></tr></table>						Bit	3/19	2/18	1/17	0/16	Encoder Bit Filter Settings	0	0	0	0	0	Filter disabled	0	0	0	0	1	100 ns filter	0	0	0	1	0	200 ns filter	0	0	0	1	1	300 ns filter	0	1	0	0	0	400 ns filter	0	1	0	0	1	500 ns filter	0	1	1	0	0	600 ns filter	0	1	1	1	1	700 ns filter	1	0	0	0	0	800 ns filter (default setting)	1	0	0	0	1	900 ns filter	1	0	1	0	0	1000 ns filter	1	0	1	1	1	1100 ns filter	1	1	0	0	0	1200 ns filter	1	1	0	0	1	1300 ns filter	1	1	1	1	0	1400 ns filter	1	1	1	1	1	1500 ns filter	Bit	5/21	4/20	Multi	Directions	Comments	0	0	2x	fwd/rev		Counts rise/fall of phase A, phase B only used to find direction	0	1	4x	fwd/rev		Counts rise/fall of both A and B phases (default setting)	1	0	1x	fwd only		Counts rise of phase A. Phase B ignored.	1	1	2X	fwd only		Counts rise of phase A. Phase B ignored.	Bit	12/28	11/27	10/26	Taps	0	0	0	0	1	0	0	0	1	2	0	0	1	0	4	0	0	1	1	8	1	0	0	0	16	1	0	0	1	32	1	0	1	0	64	1	0	1	1	127
Bit	3/19	2/18	1/17	0/16	Encoder Bit Filter Settings																																																																																																																																																																																	
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1	0	1	1	127																																																																																																																																																																																		

No.	Name Description	Values	Linkable	Read-Write	Data Type
234	Encdr 0/1 Error Indicates the error status of the encoder 0 and encoder 1. Note: Bit 4 was changed to “Reserved” for firmware version 2.004.				
	Options	Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Enc1 PhseLev Enc1 PhseLos Enc1 QuadLos Enc1 Missing Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Enc0 PhseLev Enc0 PhseLos Enc0 QuadLos Enc0 Missing			
	Default	x x x x x x x x x x x x x x 0 0 0 0 x x x x x x x x x x x x 0 0 0 0			
	Bit	31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0			
235	RegisLtch0 Value Displays the registration data of port 0. Indicates the position reference counter value latched by the external strobes. The strobe signal used to trigger the latch is configurable by Par 236 [RegisLtch 0/1 Cnfg].	Default: 0 Min/Max: -/+2147483648		RW	32-bit Integer

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																																																																		
237	RegisLtch0/1 Ctrl Configures the control for registration latch 0 and 1. - Set bit 0 "RLO Arm Req" and bit 16 "RL1 Arm Req" to arm the registration logic for the next trigger event. The particular latch will be armed and ready to be strobed on the next occurrence of the trigger input. - Set bit 1 "RLO DisarmReq" and bit 17 "RL1 DisarmReq" to disarm the registration logic for next trigger event. After the registration is captured, bit 0 "RLO Arm Req" and bit 16 "RL1 Arm Req" automatically resets back to 0 after found. Bit 1 "RLO DisarmReq" and bit 17 "RL1 DisarmReq" are only needed to disarm a registration latch that has not been found yet. Setting bits 1 and 17 will clear the bits 0 and 6. Setting bits 0 and 6 sets bits 1 "RLO Armed" and bit 16 "RL1 Armed" and clears bits 1 "RLO Found" and bit 17 "RL1 Found" of Par 238 [RegisLtch0/1Stat]. Options	<table><tr><td></td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>RL1 DisarmReq</td><td>RL1 Arm Req</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>RLO DisarmReq</td><td>RLO Arm Req</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True		Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	RL1 DisarmReq	RL1 Arm Req	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	RLO DisarmReq	RLO Arm Req	Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	x	x	x	x	x	x	x	x	x	x	x	x	0	0	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			
	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	RL1 DisarmReq	RL1 Arm Req	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	RLO DisarmReq	RLO Arm Req																																																																							
Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	x	x	x	x	x	x	x	x	x	x	x	x	0	0																																																																								
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																							
238	RegisLtch0/1Stat Indicates the control status of registration latch 0 and 1. - Bit 0 "RLO Armed" and bit 16 "RL1 Armed" indicates the registration latch is armed. - Bit 1 "RLO Found" and bit 17 "RL1 Found" indicates the registration event has triggered the latch. - Rising edge of 'Arm request' will set the 'Armed' status bit. - Rising edge of 'Disarm request' will clear the 'Armed' status bit. Options	<table><tr><td></td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>RL1 Found</td><td>RL1 Armed</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>RLO Found</td><td>RLO Armed</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True		Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	RL1 Found	RL1 Armed	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	RLO Found	RLO Armed	Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	x	x	x	x	x	x	x	x	x	x	x	x	0	0	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			
	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	RL1 Found	RL1 Armed	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	RLO Found	RLO Armed																																																																							
Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	x	x	x	x	x	x	x	x	x	x	x	x	0	0																																																																								
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																							
239	RegisLtch1 Value Displays the registration data of port 1. Indicates the position reference counter value latched by the external strobes. The strobe signal used to trigger the latch is configurable by Par 236 [RegisLtch 0/1Cnfg].	Default: 0 Min/Max: +/-2147483648		RO	32-bit Integer																																																																																																		
240	Encdr1 Position Displays the position feedback (accumulator) from encoder 1. The value changes by a value of four times (4x) the Pulses Per Revolution (PPR) rating of the encoder for each full revolution of the encoder shaft. Used by the VPL to close the position loop if position control is selected.	Default: 0 Min/Max: +/-2147483648		RO	32-bit Integer																																																																																																		
241	Encdr1 Spd Fdbk Displays the speed feedback from encoder 1. Calculated from the change of Par 240 [Encdr1 Position] and Par 242 [Encoder1 PPR].	Default: 0 Min.Max: +/-14112.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RO	Real																																																																																																		

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																																																																																																																
242	Encoder1 PPR Sets the pulse per revolution rating of the feedback device connected to the Encoder 1 input. This parameter must be set to one of the values displayed in bold in Table 242A below. Table 242A: PPR Rating Values <table><tr><th>n =</th><th>2ⁿ =</th><th>x</th><th>mod 75</th><th>mod 125</th><th>mod 225</th><th>mod 375</th><th>mod 625</th><th>mod1125</th></tr><tr><td>0</td><td>1</td><td></td><td>75</td><td>125</td><td>225</td><td>375</td><td>625</td><td>1125</td></tr><tr><td>1</td><td>2</td><td></td><td>150</td><td>250</td><td>450</td><td>750</td><td>1250</td><td>2250</td></tr><tr><td>2</td><td>4</td><td></td><td>300</td><td>500</td><td>900</td><td>1500</td><td>2500</td><td>4500</td></tr><tr><td>3</td><td>8</td><td></td><td>600</td><td>1000</td><td>1800</td><td>3000</td><td>5000</td><td>9000</td></tr><tr><td>4</td><td>16</td><td></td><td>1200</td><td>2000</td><td>3600</td><td>6000</td><td>10000</td><td>18000</td></tr><tr><td>5</td><td>32</td><td></td><td>2400</td><td>4000</td><td>7200</td><td>12000</td><td>20000</td><td>--</td></tr><tr><td>6</td><td>64</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td></tr><tr><td>7</td><td>128</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td></tr><tr><td>8</td><td>256</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td></tr><tr><td>9</td><td>512</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td></tr><tr><td>10</td><td>1024</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td></tr><tr><td>11</td><td>2048</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td></tr><tr><td>12</td><td>4096</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td></tr><tr><td>13</td><td>8192</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td></tr><tr><td>14</td><td>16384</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td></tr></table>	n =	2 ⁿ =	x	mod 75	mod 125	mod 225	mod 375	mod 625	mod1125	0	1		75	125	225	375	625	1125	1	2		150	250	450	750	1250	2250	2	4		300	500	900	1500	2500	4500	3	8		600	1000	1800	3000	5000	9000	4	16		1200	2000	3600	6000	10000	18000	5	32		2400	4000	7200	12000	20000	--	6	64	--	--	--	--	--	--	--	7	128	--	--	--	--	--	--	--	8	256	--	--	--	--	--	--	--	9	512	--	--	--	--	--	--	--	10	1024	--	--	--	--	--	--	--	11	2048	--	--	--	--	--	--	--	12	4096	--	--	--	--	--	--	--	13	8192	--	--	--	--	--	--	--	14	16384	--	--	--	--	--	--	--	Default: 1024 Min/Max: 10/20000 Units: PPR		RW	16-bit Integer
n =	2 ⁿ =	x	mod 75	mod 125	mod 225	mod 375	mod 625	mod1125																																																																																																																																													
0	1		75	125	225	375	625	1125																																																																																																																																													
1	2		150	250	450	750	1250	2250																																																																																																																																													
2	4		300	500	900	1500	2500	4500																																																																																																																																													
3	8		600	1000	1800	3000	5000	9000																																																																																																																																													
4	16		1200	2000	3600	6000	10000	18000																																																																																																																																													
5	32		2400	4000	7200	12000	20000	--																																																																																																																																													
6	64	--	--	--	--	--	--	--																																																																																																																																													
7	128	--	--	--	--	--	--	--																																																																																																																																													
8	256	--	--	--	--	--	--	--																																																																																																																																													
9	512	--	--	--	--	--	--	--																																																																																																																																													
10	1024	--	--	--	--	--	--	--																																																																																																																																													
11	2048	--	--	--	--	--	--	--																																																																																																																																													
12	4096	--	--	--	--	--	--	--																																																																																																																																													
13	8192	--	--	--	--	--	--	--																																																																																																																																													
14	16384	--	--	--	--	--	--	--																																																																																																																																													
245	Spd Fdbk TP Sel Enter or write a value to select the data displayed in Par 246 [Spd Fdbk TP RPM] and Par 247 [Spd Fdbk TP Data]. Note: Option values 5 - 15 were changed to "Reserved" and option 41 "First Diff" was added for firmware version 2.004.	Default: 0 = "Zero" Options: 0 = "Zero" 21 = "E0 EPR" 1 = "Clock Time" 22 = "E0 Edge Mode" 2 = "InactvFbkDev" 23 = "E0 nMax" 3 = "ActiveFbkDev" 24 = "E0 Error" 4 = "MCP Fdbk Dev" 25 = "E0 Qloss pk" 5 = "Reserved" 26 = "E0 Ploss pk" 6 = "Reserved" 27 = "E0 PlevlHist" 7 = "Reserved" 28 = "E1 Edge Time" 8 = "Reserved" 29 = "E1 dEdge" 9 = "Reserved" 30 = "E1 dTime" 10 = "Reserved" 31 = "E1 EPR" 11 = "Reserved" 32 = "E1 Edge Mode" 12 = "Reserved" 33 = "E1 nMax" 13 = "Reserved" 34 = "E1 Error" 14 = "Reserved" 35 = "E1 Qloss pk" 15 = "Reserved" 36 = "E1 Ploss pk" 16 = "MCP PPR" 37 = "E1 PlevlHist" 17 = "MCP 2^n" 38 = "E0 Delta2Err" 18 = "E0 Edge Time" 39 = "E1 Delta2Err" 19 = "E0 dEdge" 40 = "EOB Present" 20 = "E0 dTime" 41 = "First Diff"																																																																																																																																																			
246	Spd Fdbk TP RPM Dsplays the value selected in Par 245 [Spd Fdbk TP Sel] in rpm. This display should only be used if the selected value is floating point data.	Default: 0.0 Min/Max: +/-8.0 P.U. Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RO	Real																																																																																																																																																
247	Spd Fdbk TP Data Displays the value selected in Par 245 [Spd Fdbk TP Sel]. This display should only be used if the selected value is integer data.	Default: 0 Min/Max: +/-32768		RO	16-bit Integer																																																																																																																																																
249	Fdbk Option ID Displays information about the Feedback Option. • Bits 15-11 indicate Module ID Number. • Bits 10-6 indicate Version Number. • Bits 5-3 indicate Revision Number High. • Bits 2-0 indicate Revision Number Low. Hexadecimal 1000 indicates resolver, hexadecimal 2000 indicates old high-resolution board, and hexadecimal 2040 indicates new high-resolution board.	Options: <table><tr><td>N N N N N</td><td>N N N N N</td><td>N N N N</td><td>N N N N</td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td>Module ID No.</td><td></td><td></td><td>Revision No. Low</td></tr><tr><td></td><td>Version No.</td><td>Revision No. High</td><td></td></tr></table>	N N N N N	N N N N N	N N N N	N N N N					Module ID No.			Revision No. Low		Version No.	Revision No. High																																																																																																																																				
N N N N N	N N N N N	N N N N	N N N N																																																																																																																																																		
Module ID No.			Revision No. Low																																																																																																																																																		
	Version No.	Revision No. High																																																																																																																																																			
250	FB Opt0 Posit Displays the position feedback (accumulator) from the feedback option card port 0.	Default: 0 Min/Max: +/-2147483648		RO	32-bit Integer																																																																																																																																																

254	Opt0/1 RegisCnfg Configures the registration latch for port 0 of the feedback option card. • Bits 3 “00 RLTrgEdg0”, 4 “00 RLTrgEdg1”, 19 “01 RLTrgEdg0” and 20 “01 RLTrgEdg1” select which trigger edges signal the position (see Table 254A: Edge Selection Settings). • Bits 5 “00 RL DirRev”, 6 “00 RL DirFwd”, 21 “01 RL DirRev” and 22 “01 RL DirFwd” set the direction of position capture (see Table 254B: Direction Settings). • Bits 8-11 configure a digital filter for the registration trigger signal. This filter can be used to reject spurious noise. The filter works by waiting a programmed time before deciding that the signal is valid. This waiting imposes a mandatory delay in the registration signal. The filter delay is programmable in increments of 100 nanoseconds from 0 (or no delay) up to 700 nanoseconds.
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Bits 3 & 4, 19 & 20, please refer to Table 254A: Edge Selection Settings below:

Table 254B: Direction Settings

Bit	6/22	5/21	
0	0		Disable capture
0	1		Capture position during Reverse rotation
1	0		Capture position during Forward rotation
1	1		Capture position during either rotation

256	Opt0/1 RegisStat Indicates the registration control status on port 0 of the feedback option card. • Bit 0 "Opt0 Armed" indicates the registration latch is armed. • Bit 1 "Opt0 Found" indicates the registration event has triggered the latch. • Rising edge of 'Arm request' will set the 'Armed' status bit. • Rising edge of 'Disarm request' will clear the 'Armed' status bit.
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No.	Name Description	Values	Linkable	Read-Write	Data Type
257	Opt 0 Regis Ltch Displays the registration data of the feedback option card port 0. The registration data is the position reference counter value latched by the external strobes. The strobe signal used to trigger the latch is configurable by the Par 254 (Opt0/1 RegisCnfg).	Default: 0 Min/Max: -/+2147483648		RO	32-bit Integer
258	Opt 1 Regis Ltch Displays the registration data of the feedback option card port 0. The registration data is the position reference counter value latched by the external strobes. The strobe signal used to trigger the latch is configurable by Par 254 (Opt0/1 RegisCnfg).	Default: 0 Min/Max: -/+2147483648		RO	32-bit Integer

- 259 Stegmann0 Cnfg**
Configures the Stegmann Hi-Resolution Encoder Feedback Option.
- Bit 5 “Direction” determines counting direction. If clear, direction is forward or up. If set, the direction is reverse or down.
 - Bits 10 “SmplRate bt0” -12 “SmplRate bt2” configure the Finite Impulse Response (FIR) Filter (see Table 259A: FIR Filter Settings). This setting reduces the effect of noisy feedback on the system. Refer to the Speed/Position Feedback section of the *PowerFlex® 700S with Phase II Control Reference Manual*, publication PFLEX-RM003 for details.
- Notes: Bit 11 “SmplRate bt1” is set to 0 = False by default for firmware version 1.11 and is set to 1 = True by default for firmware version 2.003. This parameter was changed to non-linkable for firmware version 3.001.

Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	SmplRate bt2	SmplRate bt1	SmplRate bt0	Reserved	Reserved	Reserved	SW Reset	Direction	Reserved	Reserved	Reserved	Reserved	Reserved
Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	0	x	x	x	0	0	x	x	x	x	x
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0

0 = False
1 = True

Table 259A: FIR Filter Settings

Bit	12	11	10	Taps
0	0	0	0	1
0	0	0	1	2
0	1	0	0	4
0	1	1	0	8
1	0	0	0	16
1	0	1	0	32
1	1	0	0	64
1	1	1	1	127

- 260 Stegmann0 Status**
Indicates faults on the Stegmann Hi-Resolution Encoder Feedback Option.
- Bit 8 “Open Wire” indicates an open wire fault.
The feedback option card checks for a pre-determined constant value. If this value is not within tolerances, an open wire fault is declared. A quadrature check also is done. If an error occurs during the check, the ope wire check is aborted. If 3 quadrature errors occur in succession, the open wire check will complete and the constant value checked again. If this value is not within tolerances, the fault is declared.
 - Bit 9 “PowerSup Er” indicates the failure of the power supply.
 - Bit 10 “PwrUpDiag Er” indicates the option board failed its power-up diagnostic test.
The pattern on the FPGA must be identical to the pattern written from the DSP, or the board status test will fail.
 - Bit 11 “MsgChksum Er” indicates a message checksum fault.
The check sum associated with the Heidenhain encoder must be correct and acknowledged by the feedback option card.
 - Bit 12 “Time Out Err” indicates a RS-485 time-out fault.
This check requires information to be sent from the encoder to the feedback option card within a specified time. Typical times are about 10 clock cycles before an error is detected. This check is done only at power-up.

Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Time Out Err	MsgChksum Er	PwrUpDiag Er	PowerSup Er	Open Wire	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	0	0	0	x	x	x	x	x	x	x	x
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0

0 = False
1 = True

[illegible]

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																																																																		
264	Heidenhain0 Stat Indicates fault and alarm statuses on the Heidenhain encoder feedback option card and Endat communication. • Bit 0 "VM Enc Out" when set, indicates that the encoder output from the Heidenhain option card is the virtual encoder position determined by Par 1155 [Heidn VM Pos Ref]. • Bit 1 "Emul Enc Out" when set, indicates that the encoder output from the Heidenhain option card is the emulated encoder position determined by the connected Heidenhain encoder. • Bit 5 "Sig Amplitud" indicates that the signal amplitude is insufficient or too large. • Bit 6 "Quadrature Er" indicates that there is a signal quadrature error. • Bit 7 "Open Wire" indicates an open wire fault. • Bit 8 "VoltageLvlEr" indicates that the operating voltage is too high or too low. • Bit 9 "PowerSup Er" indicates the failure of the power supply. • Bit 10 "PowerUpDiag Er" indicates the option board failed its power-up diagnostic test. The pattern on the FPGA must be identical to the pattern written from the DSP, or the board status test will fail. • Bit 11 "MsgChecksum Er" indicates a message checksum fault. The check sum associated with the Endat communication device must be correct and acknowledged by the feedback option card. • Bit 12 "Time Out Err" indicates an Endat time-out fault. • Bit 13 "PPR Error" indicates an encoder PPR setting mismatch fault. • Bit 14 "Bootup Error" indicates an Endat boot-up fault. • Bit 15 "FW VersionEr" indicates that the firmware version of the encoder does not match the firmware version of the Heidenhain option card in the drive. • Bit 16 "LightSrc Er" indicates an Endat light source fault. • Bit 17 "Sig Amplitud" indicates an Endat signal amplitude fault. • Bit 18 "PstvValue Er" indicates an Endat positive value fault. • Bit 19 "Over Voltage" indicates an Endat over voltage fault. • Bit 20 "Undr Voltage" indicates an Endat under voltage fault. • Bit 21 "Over Current" indicates an Endat over current fault. • Bit 24 "FrqExced Alm" indicates an Endat frequency exceeded alarm. • Bit 25 "Temptr Alm" indicates an Endat temperature exceeded alarm. • Bit 26 "LghtCtrl Alm" indicates an Endat limit of light control alarm. • Bit 28 "RefPoint Alm" indicates an Endat reference point alarm. Notes: This parameter was added for firmware version 2.003. Bit 14 was changed from "Endat BootEr" to "Bootup Error" and bit 15 "FW VersionErr" is new for firmware version 3.001. Bits 0 and 1 were added for firmware version 4.001.	<table><tr><th>Options</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>RefPoint Alm</th><th>Reserved</th><th>LightCtrl Alm</th><th>Temptr Alm</th><th>FrqExced Alm</th><th>Reserved</th><th>Reserved</th><th>Over Current</th><th>Undr Voltage</th><th>Over Voltage</th><th>PstvValue Er</th><th>Sig Amplitud</th><th>LightSrc Er</th><th>FW VersionEr</th><th>Bootup Error</th><th>PPR Error</th><th>Time Out Err</th><th>MsgChecksum Er</th><th>PowerUpDiag Er</th><th>PowerSup Er</th><th>VoltageLvlEr</th><th>Open Wire</th><th>Quadrature Er</th><th>Sig Amplitud</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Emul Enc Out</th><th>VM Enc Out</th></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>0</td><td>x</td><td>0</td><td>0</td><td>0</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True	Options	Reserved	Reserved	Reserved	RefPoint Alm	Reserved	LightCtrl Alm	Temptr Alm	FrqExced Alm	Reserved	Reserved	Over Current	Undr Voltage	Over Voltage	PstvValue Er	Sig Amplitud	LightSrc Er	FW VersionEr	Bootup Error	PPR Error	Time Out Err	MsgChecksum Er	PowerUpDiag Er	PowerSup Er	VoltageLvlEr	Open Wire	Quadrature Er	Sig Amplitud	Reserved	Reserved	Reserved	Emul Enc Out	VM Enc Out	Default	x	x	x	0	x	0	0	0	x	x	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	x	x	x	0	0	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			
Options	Reserved	Reserved	Reserved	RefPoint Alm	Reserved	LightCtrl Alm	Temptr Alm	FrqExced Alm	Reserved	Reserved	Over Current	Undr Voltage	Over Voltage	PstvValue Er	Sig Amplitud	LightSrc Er	FW VersionEr	Bootup Error	PPR Error	Time Out Err	MsgChecksum Er	PowerUpDiag Er	PowerSup Er	VoltageLvlEr	Open Wire	Quadrature Er	Sig Amplitud	Reserved	Reserved	Reserved	Emul Enc Out	VM Enc Out																																																																							
Default	x	x	x	0	x	0	0	0	x	x	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	x	x	x	0	0																																																																								
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																							
265	Heidn Mkr Offset Configures marker offset values for the Heidenhain Encoder Feedback Option. The marker offset is specified within one revolution. Note: This parameter was added for firmware version 2.003.	Default: 0.0000 Min/Max: 0.0000/4294967295	✓	RW	32-bit Integer																																																																																																		
266	Heidn Encdr Type Configures the encoder type manually if the Endat type is not used. • Bit 0 "Reserved" Automatically set after power-up. Do not change. • Bit 1 "Not EnDat" Enables/Disables EnDat serial communications. Serial communications must be turned on for permanent magnet motors or if absolute position is required. With EnDat serial communications enabled, bit 2 "Multi Turn" and the value of parameter 267 [Heidn Encdr PPR] will be automatically set on power-up. • Bit 2 "Multi Turn" set to "1" (True) if the encoder supports mutli-turn absolute position. This bit is set automatically if bit 1 "Not EnDat" is set to "0" (False). • Bit 5 "Endat24bitSI" when this bit is on, the Heidenhain encoder works as Endat / Single turn / 24 bits. When this bit is off, the Heidenhain encoder works as Endat / Single turn / 20 bits. • Bit 6 "VrtlMasterEn" when set, indicates that the Virtual Master encoder function of the Heidenhain option card is active. The Virtual Master function is available with v3.00 or later of the Heidenhain option card. Notes: This parameter was added for firmware version 2.003. Bit 1 "Not Endat" was changed to "0" (false) and bit 2 "Multi Turn" was changed to "1" (true) for firmware version 2.004. Bit 1 "Not Endat" was changed to "1" (true), bit 2 "Multi Turn" was changed to "0" (False), and bit 6 "Endat24bitSI" was added for firmware version 3.001. Added bit 6 for firmware version 4.001.	<table><tr><th>Options</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>VrtlMasterEn</th><th>Endat24bitSI</th><th>Reserved</th><th>Reserved</th><th>Multi Turn</th><th>Not EnDat</th><th>Reserved</th></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>x</td><td>x</td><td>0</td><td>1</td><td>x</td></tr><tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True	Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	VrtlMasterEn	Endat24bitSI	Reserved	Reserved	Multi Turn	Not EnDat	Reserved	Default	x	x	x	x	x	x	x	x	x	0	0	x	x	0	1	x	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	✓	RW	16-bit Integer																																															
Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	VrtlMasterEn	Endat24bitSI	Reserved	Reserved	Multi Turn	Not EnDat	Reserved																																																																																							
Default	x	x	x	x	x	x	x	x	x	0	0	x	x	0	1	x																																																																																							
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																																							

No.	Name Description	Values	Linkable	Read-Write	Data Type																											
267	Heidn Encdr PPR  Set this value equal to the Heidenhain encoder PPR (e.g., 2048). This value is automatically set when bit 1 "NotEnDat" of parameter 266 [Heidn Encdr Type] is set to "0" (False). Note: This parameter was added for firmware version 2.003. Changed the minimum value from "10" to "1" for firmware version 4.001.	Default: 2048 Min/Max: 1/100000 Units: PPR		RW	32-bit Integer																											
268	Resolver0 Cnfg Configures options for the resolver option card port 0. - Setting bit 0 "Cable Tune" enables the cable tuning test, resetting the bit to zero disables the test. Refer to the section on Resolver Cable Tuning Tests in publication PFLEX-RM003, <i>Reference Manual - PowerFlex 700S Drives with Phase II Control</i> for more information. - Bit 1 "Tune Param" has been disabled. - Bits 2 "Resolution 0" and 3 "Resolution 1" select the resolver resolution (see Table 268A: Resolution Settings). This determines the number of significant bits that are calculated in the value of Par 250 [FB Opt0 Posit]. It does not affect the number of counts created per resolver revolution (see Table 268B: Resolution and Least Significant Bits Used). Also, the resolution sets a limit on the maximum tracking speed (see Table 268C: Resolution and Resolver Tracking Speed). - Setting bit 4 "Energize" energizes the resolver, resetting the bit to zero de-energizes the resolver. - Bit 5 "Resolver Dir" determines counting direction. If clear, direction is forward or up. If set, the direction is reverse or down. - Bit 9 "Edge Time" configures the method of sampling used by the Velocity Position Loop (VPL). Setting the bit chooses "Edge to Edge" sampling, while resetting the bit to zero chooses "Simple Difference" sampling. "Simple Difference" sampling calculates speed by examining the difference between pulse counts over a fixed sample time. "Edge to Edge" sampling adjusts the sample time to synchronize with the position count updates from the daughter card - improving the accuracy of the speed calculation. - Bits 10 "SmplRate bt0" through 12 "SmplRate bt2" configure the Finite Impulse Response (FIR) Filter (see Table 268D: FIR Filter Settings). This setting reduces the effect of noisy feedback on the system. Refer to the Speed/Position Feedback section of the <i>PowerFlex® 700S with Phase II Control Reference Manual</i>, publication PFLEX-RM003 for details. Note: Bit 11 "SmplRate bt0" is set to 0 = False by default for firmware version 1.11 and bit 11 "SmplRate1" is set to 1 = True by default for firmware version 2.003.																															
Options																																
	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	SmplRate bt2	SmplRate bt1	SmplRate bt0	Reserved	Reserved	Reserved	Reserved	Resolver Dir	Energize	Resolution 1	Resolution 0	Reserved	Cable Tune
Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	1	0	x	x	x	x	0	1	0	1	x	0
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Table 268A: Resolution Settings																																
Bit	3	2	Resolution																													
0	0	0	10 bit resolution																													
0	1	1	12 bit resolution (default setting)																													
1	0	0	14 bit resolution																													
1	1	1	16 bit resolution																													
Table 268B: Resolution and Least Significant Bits Used																																
Resolution	LSB Not Used	Parameter 250 Increments by																														
16 bit	All bits used	1																														
14 bit	2 LSB not used	4																														
12 bit	4 LSB not used	8																														
10 bit	6 LSB not used	64																														
Table 268C: Resolution and Resolver Tracking Speed																																
Resolution	Maximum Carrier Freq.	Tracking Speed for X1 Resolver	Tracking Speed for X2 Resolver	Tracking Speed for X5 Resolver																												
10 bit	34 kHz	55 K-rpm	27.5 K-rpm	11 K-rpm																												
12 bit	24kHz	13.8 K-rpm	6.9 K-rpm	2.76 K-rpm																												
14 bit	14kHz	3480 rpm	1740 rpm	696 rpm																												
16 bit	10 kHz	900 rpm	450 rpm	180 rpm																												
Table 268D: FIR Filter Settings																																
Bit	12	11	10	Taps																												
0	0	0	0	1																												
0	0	0	1	2																												
0	1	0	0	4																												
0	1	1	0	8																												
1	0	0	0	16																												
1	0	1	0	32																												
1	1	0	0	64																												
1	1	1	1	127																												

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																		
269	Resolver0 Status Indicates status of the resolver option card port 0. • Bit 0 “-Cable Tune” • Bit 1 “-Tune Result” indicates the tuning Parameter type. When set, it indicates the tuning is using the parameter database. When cleared, it indicates the tuning is using derived data. • Bit 2 “-Mtr Turning” indicates that the motor is turning. • Bit 4 “Energized” indicates the resolver is energized. • Bit 8 “Open Wire” indicates a problem with the cable (open circuit). • Bit 9 “Power Supply” indicates problem with the option card’s power supply. • Bit 10 “Diag Fail” indicates the option card has failed its power-up diagnostics. <table><tr><td>Options</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Select OK</td><td>Diag Fail</td><td>Power Supply</td><td>Open Wire</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Energized</td><td>-Cable Comp</td><td>-Mtr Turning</td><td>-Tune Result</td><td>-Cable Tune</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True	Options	Reserved	Reserved	Reserved	Reserved	Select OK	Diag Fail	Power Supply	Open Wire	Reserved	Reserved	Reserved	Energized	-Cable Comp	-Mtr Turning	-Tune Result	-Cable Tune	Default	x	x	x	x	0	0	0	0	x	x	x	0	0	0	0	0	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			
Options	Reserved	Reserved	Reserved	Reserved	Select OK	Diag Fail	Power Supply	Open Wire	Reserved	Reserved	Reserved	Energized	-Cable Comp	-Mtr Turning	-Tune Result	-Cable Tune																																							
Default	x	x	x	x	0	0	0	0	x	x	x	0	0	0	0	0																																							
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																							
270	Reslvr0 TP Sel Enter or write a value to select Fault data displayed in Par 271 [Reslvr0 TP Data].	Default: 0 = “Zero” Options: 0 = “Zero” 4 = “RO EPR” 1 = “RO Edge Time” 5 = “RO Edge Mode” 2 = “RO dEdge” 6 = “RO nMax” 3 = “RO dTime” 7 = “RO Delta2Err”																																																					
271	Reslvr0 TP Data Displays the data selected by Par 270 [Reslvr0 TP Sel].	Default: 0 Min/Max: -/+2147483648		RO	32-bit Integer																																																		
272	Reslvr0 SpdRatio Specifies the speed ratio for the resolver option card port 0. The speed ratio comes from the following formula. Speed ratio = electrical revolutions / mechanical revolutions = pole count / 2. Note: Option 0 = “Zero” was added for firmware version 2.004.	Default: 1 = 2 poles (x1) Options: 0 = “Zero” 3 = 6 Poles (x3) 1 = 2 Poles (x1) 4 = 8 Poles (x4) 2 = 4 Poles (x2) 5 = 10 Poles(x5)																																																					
273	Reslvr0 Carrier Specifies the resolver carrier frequency for the resolver option card port 0.	Default: 0 Min/Max: 0/10000 Units: Hz		RO	32-bit Integer																																																		
274	Reslvr0 In Volts Specifies the resolver input voltage for the resolver option card port 0.	Default: 0.0000 Min/Max: 0.0000/31.0810 Units: V		RO	Real																																																		
275	Rslvr0 XfrmRatio Specifies the resolver transform ratio for the resolver option card port 0.	Default: 0.0000 Min/Max: 0.0000/4.0950		RO	Real																																																		
276	Reslvr0 CableBal Specifies the resolver cable balance for the resolver option card port 0.	Default: 0 Min/Max: 0/255		RO	Real																																																		
277	Reslvr0 Type Sel Specifies used resolver. The values for options 5 & 12 were changed to “Reserved” for firmware version 2.004. Added options 15 and 16 for firmware version 4.001 but are not functional (for future use).	Default: 0 = “Disabled” Options: 0 = “Disabled” 9 = “1326Ax 460v” 1 = “T2014/2087x1” 10 = “Reserved” 2 = “T2014/2087x2” 11 = “Reserved” 3 = “T2014/2087x5” 12 = “Reserved” 4 = “MPL 460v” 13 = “Reserved” 5 = “Reserved” 14 = “AmciR11XC107” 6 = “Siemens 1FT6” 15 = “PowerTec R1” 7 = “PrkrHn ZX600” 16 = “PowerTec R2” 8 = “Reserved”																																																					

No.	Name Description	Values	Linkable	Read-Write	Data Type
278	Sleep-Wake Mode Enables/disables the Sleep-Wake function. Important: When enabled, the following conditions must be met: • A proper value must be programmed for parameters 280 [Wake Level] and 282 [Sleep Level]. • A speed reference must be selected in parameter 27 [Speed Ref A Sel]. • At least one of the following must be programmed (and input closed) in [Dig Inx Sel]: “Enable,” “Stop=CF,” “Run.” Note: This parameter was added with firmware version 5.002.	Default: 0 = “Disabled” Options: 0 = “Disabled” 1 = “Direct” 2 = “Invert”			
 ATTENTION: Enabling the Sleep-Wake function can cause unexpected machine operation during the Wake mode. Equipment damage and/or personal injury can result if parameter 278 [Sleep-Wake Mode] is used in an inappropriate application. Do Not use this function without considering the information below and in Sleep-Wake Mode on page 184. In addition, all applicable local, national and international codes, standards, regulations or industry guidelines must be considered.					
Conditions Required to Start Drive ⁽¹⁾⁽²⁾⁽³⁾					
	After Power-Up	After a Drive Fault		After a Stop Command	
Input		<i>Reset by Stop-CF, HIM or TB</i>	<i>Reset by Clear Faults (TB)</i>	<i>HIM or TB</i>	
Stop	Stop Closed Wake Signal	Stop Closed Wake Signal New Start or Run Cmd. ⁽⁴⁾	Stop Closed Wake Signal	Stop Closed <u>Direct Mode</u> Analog Sig. > Sleep Level ⁽⁶⁾ <u>Invert Mode</u> Analog Sig. < Sleep Level ⁽⁶⁾ New Start or Run Cmd. ⁽⁴⁾	
Enable	Enable Closed Wake Signal ⁽⁴⁾	Enable Closed Wake Signal New Start or Run Cmd. ⁽⁴⁾	Enable Closed Wake Signal	Enable Closed <u>Direct Mode</u> Analog Sig. > Sleep Level ⁽⁶⁾ <u>Invert Mode</u> Analog Sig. < Sleep Level ⁽⁶⁾ New Start or Run Cmd. ⁽⁴⁾	
Run	New Run Cmd. ⁽⁵⁾ Wake Signal	New Run Cmd. ⁽⁵⁾ Wake Signal	New Run Cmd. ⁽⁵⁾ Wake Signal	New Run Cmd. ⁽⁵⁾ Wake Signal	
(1) When power is cycled, if all of the above conditions are present after power is restored, restart will occur. (2) If all of the above conditions are present when [Sleep-Wake Mode] is “enabled,” the drive will start. (3) The active speed reference is determined as explained in “Reference Selection” in the PowerFlex 700S AC Drives Phase II Control Reference Manual, publication PFLEX-RM003. The Sleep-Wake function and the speed reference may be assigned to the same input. (4) Command must be issued from HIM, TB or network. (5) Run Command must be cycled. (6) Signal does not need to be greater than wake level.					
279	Sleep-Wake Ref Selects the source of the input controlling the Sleep-Wake function. Note: This parameter was added with firmware version 5.002.	Default: 2 = “Analog In 2” Options: 1 = “Analog In 1” 2 = “Analog In 2”			
280	Wake Level Defines the analog input level (at or above) that will start the drive. Note: This parameter was added with firmware version 5.002.	Default: 6.000 mA, 6.000V Min/Max: [Sleep Level]/20.000 mA, 10.000V Units: 0.001 mA / 0.001V		RW	Real
281	Wake Time Defines the amount of time that the value of [Wake Level] must be present before a Start is issued. Note: This parameter was added with firmware version 5.002.	Default: 0.0 s Min/Max: 0.0/1000.0 s Units: 0.1 s		RW	Real
282	Sleep Level Defines the analog input level (at or below) that will stop the drive. Note: This parameter was added with firmware version 5.002.	Default: 5.000 mA / 5.000V Min/Max: 4.000 mA, 0.000V / [Wake Level] Units: 0.001 mA / 0.001V		RW	Real
283	Sleep Time Defines the amount of time that the value of [Sleep Level] must be present before a Stop is issued. Note: This parameter was added with firmware version 5.002.	Default: 0.0 s Min/Max: 0.0/1000.0 s Units: 0.1 s		RW	Real

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																			
284	Sleep Control Status of the Sleep-Wake function. • Bit 0 "Enable" when set, Sleep-Wake mode is enabled. • Bit 1 "Analog Ref 0" when set, indicates that analog input 1 is used for Sleep mode control. • Bit 2 "Analog Ref 1" when set, indicates that analog input 2 is used for Sleep mode control. • Bit 3 "Mode 0" when set, direct control is used. • Bit 4 "Mode 1" when set, inverted control is used. • Bits 5...7 "State x" indicate the Sleep-Wake mode state that is currently active. See Table 284A: Sleep-Wake Mode Active State below. • Bit 8 "Digin Cnflct" when set indicates that a digital input conflict exists. See Par Par 278 [Sleep-Wake Mode] for details on digital input programming for the Sleep-Wake function. • Bit 9 "Stop Latch" when set, a Stop command is being issued from the sleep mode. • Bit 10 "Start Latch" Not used. • Bit 11 "Not Running" when set, the drive is not running. • Bit 12 "Level Cnflct" when set, the value of Par 280 [Wake Level] or Par 282 [Sleep Level] is outside the Min/Max range of the assigned analog input (mA or V). Or, if in direct mode, the value of [Sleep Level] is greater than the value of [Wake Level]. Note: This parameter was added with firmware version 5.002.																																																							
	Options	<table><tr><td></td><td>unused 3</td><td>unused 2</td><td>unused 1</td><td>Level Cnflct</td><td>Not Running</td><td>Start Latch</td><td>Stop Latch</td><td>Digin Cnflct</td><td>State 2</td><td>State 1</td><td>State 0</td><td>Mode 1</td><td>Mode 0</td><td>Analog Ref 1</td><td>Analog Ref 0</td><td>Enable</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table>		unused 3	unused 2	unused 1	Level Cnflct	Not Running	Start Latch	Stop Latch	Digin Cnflct	State 2	State 1	State 0	Mode 1	Mode 0	Analog Ref 1	Analog Ref 0	Enable	Default	x	x	x	0	0	0	0	0	0	0	0	0	0	0	0	0	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	0 = False 1 = True		
	unused 3	unused 2	unused 1	Level Cnflct	Not Running	Start Latch	Stop Latch	Digin Cnflct	State 2	State 1	State 0	Mode 1	Mode 0	Analog Ref 1	Analog Ref 0	Enable																																								
Default	x	x	x	0	0	0	0	0	0	0	0	0	0	0	0	0																																								
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																								
	Table 284A: Sleep-Wake Mode Active State	<table><tr><th>Bit 7</th><th>6</th><th>5</th><th>Active Mode</th></tr><tr><td>0</td><td>0</td><td>0</td><td>Drive is powering up</td></tr><tr><td>0</td><td>0</td><td>1</td><td>Drive is asleep</td></tr><tr><td>0</td><td>1</td><td>0</td><td>Drive is waiting</td></tr><tr><td>0</td><td>1</td><td>1</td><td>Drive is awake</td></tr></table>	Bit 7	6	5	Active Mode	0	0	0	Drive is powering up	0	0	1	Drive is asleep	0	1	0	Drive is waiting	0	1	1	Drive is awake																																		
Bit 7	6	5	Active Mode																																																					
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0	0	1	Drive is asleep																																																					
0	1	0	Drive is waiting																																																					
0	1	1	Drive is awake																																																					

285	Linear1 Config Used to configure a linear encoder when a Multi Device Interface (MDI) feedback card is installed. Note: This parameter was added for firmware version 2.003. • Bit 5 "Direction" - Setting this bit to "1" inverts the count (up/down) direction of the linear feedback position Par 252 [FB Opt1 Posit]. If [FB Opt1 Posit] has been counting up for forward feedback sensor travel then setting this bit will cause [FB Opt1 Posit] to count down. The opposite behavior will occur when the sensor moves in the other direction. • Bit 6 "Stahl Linear" - Setting this bit to "1" indicates to the MDI card that a Stahl type linear device is being used. If this bit is set to "0" then a Temposonics linear device is being used. • Bits 10 - 12 form a 3 bit moving average filter sampling rate. See Table 285A: Sample Rate Bit Settings.																																																							
	Options	<table><tr><td></td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Op1 SmplRt b3</td><td>Op1 SmplRt b2</td><td>Op1 SmplRt b1</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Stahl Linear</td><td>Direction</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>0</td><td>1</td><td>1</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td></tr><tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table>		Reserved	Reserved	Reserved	Op1 SmplRt b3	Op1 SmplRt b2	Op1 SmplRt b1	Reserved	Reserved	Reserved	Stahl Linear	Direction	Reserved	Reserved	Reserved	Reserved	Reserved	Default	x	x	x	0	1	1	x	x	x	0	0	x	x	x	x	x	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	0 = False 1 = True		
	Reserved	Reserved	Reserved	Op1 SmplRt b3	Op1 SmplRt b2	Op1 SmplRt b1	Reserved	Reserved	Reserved	Stahl Linear	Direction	Reserved	Reserved	Reserved	Reserved	Reserved																																								
Default	x	x	x	0	1	1	x	x	x	0	0	x	x	x	x	x																																								
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																								
	Table 285A: Sample Rate Bit Settings	<table><tr><th>Bit 12</th><th>11</th><th>10</th><th>Exponent Value 'n'</th><th>Filter Sample Size = 2ⁿ</th></tr><tr><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td></tr><tr><td>0</td><td>0</td><td>1</td><td>1</td><td>2</td></tr><tr><td>0</td><td>1</td><td>0</td><td>2</td><td>4</td></tr><tr><td>0</td><td>1</td><td>1</td><td>3</td><td>8 (Default)</td></tr><tr><td>1</td><td>0</td><td>0</td><td>4</td><td>16</td></tr><tr><td>1</td><td>0</td><td>1</td><td>5</td><td>32</td></tr><tr><td>1</td><td>1</td><td>0</td><td>6</td><td>64</td></tr><tr><td>1</td><td>1</td><td>1</td><td>7</td><td>127</td></tr></table>	Bit 12	11	10	Exponent Value 'n'	Filter Sample Size = 2 ⁿ	0	0	0	0	1	0	0	1	1	2	0	1	0	2	4	0	1	1	3	8 (Default)	1	0	0	4	16	1	0	1	5	32	1	1	0	6	64	1	1	1	7	127									
Bit 12	11	10	Exponent Value 'n'	Filter Sample Size = 2 ⁿ																																																				
0	0	0	0	1																																																				
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1	0	1	5	32																																																				
1	1	0	6	64																																																				
1	1	1	7	127																																																				

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																																																																		
298	Elapsed Run Time Displays the total time that the drive has been running (inverter power devices active) with a resolution of 1/10 hour. This parameter is saved in power EE non-volatile memory. The value in this parameter can be changed (written to) by the user.	Default: 0.0 Min/Max: 0.0/429496736.0 Units: hr Scale: x 10		RW	32-bit Integer																																																																																																		
299	Elapsed MWHrs Displays the total energy the drive has consumed or produced. Calculated from the absolute magnitude of the product of motor speed and motor torque (power), accumulated over time. This value will increase in both regen and motoring modes of operation. This parameter value can be changed (written to) by the user.	Default: 0.0 Min/Max: 0.0/429496736.0 Units: MWhr Scale: x 10		RW	32-bit Integer																																																																																																		
300	Motor Spd Fdbk Displays measured motor speed information from the selected feedback device.	Default: 0.0000 Min/Max: -/+14112.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RO	Real																																																																																																		
301	Motor Speed Ref Displays the speed reference value, after the limit function. This is the input to the error calculator and speed regulator.	Default: 0.0000 Min/Max: -/+14112.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RO	Real																																																																																																		
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.	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: P.U.		RO	Real																																																																																																		
303	Motor Torque Ref Displays the reference value of motor torque. The actual value of the motor torque is within 5% of this value.	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: P.U.		RO	Real																																																																																																		
304	Limit Status Displays the limit status of conditions that may be limiting the current reference or torque reference. • Bit 0 "+MCS Iq Lim" indicates that torque producing current is at its positive limit. • Bit 1 "+MCS Ws Lim" indicates that flux producing torque is at its positive limit. • Bit 2 "0 Ia from +" indicates that torque producing current is limited to zero from the positive direction - refer to Par 353 [Iq Actual Lim]. • Bit 3 "+Iq Calc" indicates the calculation for torque producing current has reached its positive limit. • Bit 4 "+Current Lim" indicates that the current reference has reached the positive Motor Current Limit set by Par 356 [Mtr Current Lim]. • Bit 5 "+DriveProtOL" indicates that the current reference has reached the positive current limit set by the Open Loop Inverter Overload, shown in Par 343 [OL OpnLp CurrLim]. • Bit 6 "+DriveProtCL" indicates that the current reference has reached the positive current limit set by the Closed Loop Inverter Overload, shown in Par 344 [OL ClsLp CurrLim]. • Bit 8 "+Torq Limit" indicates that the torque reference has reached the Positive Torque Limit set by Par 125 [Torque Pos Limit]. • Bit 9 "Mtrng PwrLim" indicates that the torque reference is being limited by the Motoring Power Limit set by Par 127 [Mtring Power Lim]. • Bit 10 "+Torq CurLim" indicates that current reference has reached the Actual Torque Producing Current Limit set by Par 353 [Iq Actual Lim]. • Bit 11 "Atune Tq Lim" indicates that the torque reference is being limited by Par 129 [Atune Trq Ref]. • Bit 12 "+0 Torq Ena" indicates that the torque reference is limited to zero because Par 157 [Logic Ctrl State] bit 9 "Torq Ref En" is off. • Bit 13 "+0 Curr Ena" indicates that the current reference is limited to zero because Par 157 [Logic Ctrl State] bit 11 "CurrRef En" is off. • Bit 14 "Speed Limit" indicates the collective status of all speed limitations. • Bit 15 "Current Lim" indicates the collective status of all current limitations • Bit 16 "-MCS Iq Lim" indicates that torque producing current is at its negative limit. • Bit 17 "-MCS Ws Lim" indicates that flux producing torque is at its negative limit. • Bit 18 "0 Ia from -" indicates that torque producing current is limited to zero from the negative direction - refer to Par 353 [Iq Actual Lim]. • Bit 19 "-Iq Calc" indicates the calculation for torque producing current has reached its negative limit. • Bit 20 "-Current Lim" indicates that the current reference has reached the negative Motor Current Limit set by Par 356 [Mtr Current Lim]. • Bit 21 "-DriveProtOL" indicates that the current reference has reached the negative current limit set by the Open Loop Inverter Overload, shown in Par 343 [OL OpnLp CurrLim]. • Bit 22 "-DriveProtCL" indicates that the current reference has reached the negative current limit set by the Closed Loop Inverter Overload, shown in Par 344 [OL ClsLp CurrLim]. • Bit 24 "-Torq Limit" indicates that the torque reference has reached the Negative Torque Limit set by Par 126 [Torque Neg Limit]. • Bit 25 "Regen PwrLim" indicates that the torque reference is being limited by the Regenerative Power Limit set by Par 128 [Regen Power Lim]. • Bit 26 "-Torq CurLim" indicates that current reference has reached the Actual Torque Producing Current Limit set by Par 353 [Iq Actual Lim]. • Bit 27 "Bus Reg Tq Lim" indicates the bus voltage regulator is active and limiting the regenerative torque. • Bit 28 "-0 Torq Ena" indicates that the torque reference is limited to zero because Par 157 [Logic Ctrl State] bit 9 "Torq Ref En" is off. • Bit 29 "-0 Curr Ena" indicates that the current reference is limited to zero because Par 157 [Logic Ctrl State] bit 11 "CurrRef En" is off. • Bit 30 "Torque Limit" indicates the collective status of all torque limitations. • Bit 31 "Power Limit" indicates the collective status of all power limitations.																																																																																																						
Options <table><tr><td></td><td>Power Limit</td><td>Torque Limit</td><td>-0 Curr Enbl</td><td>-0 Trq Enbl</td><td>Bus Reg Lim</td><td>-Trq CurLim</td><td>Regen PwrLim</td><td>-Trq Limit</td><td>SpdReg Open</td><td>-DriveProtCL</td><td>-DriveProtOL</td><td>-Current Lim</td><td>-Iq Calc</td><td>0 Iq from -</td><td>-MCS Ws Lim</td><td>-MCS Iq Lim</td><td>Current Lim</td><td>Speed Limit</td><td>+0 Curr Enbl</td><td>+0 Trq Enbl</td><td>Atun Trq Lim</td><td>+Trq CurLim</td><td>Mtrng PwrLim</td><td>+Trq Limit</td><td>+SpdReg Open</td><td>+DriveProtCL</td><td>+DriveProtOL</td><td>+Current Lim</td><td>+Iq Calc</td><td>0 Iq from +</td><td>+MCS Ws Lim</td><td>+MCS Iq Lim</td></tr><tr><td>Default</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table>							Power Limit	Torque Limit	-0 Curr Enbl	-0 Trq Enbl	Bus Reg Lim	-Trq CurLim	Regen PwrLim	-Trq Limit	SpdReg Open	-DriveProtCL	-DriveProtOL	-Current Lim	-Iq Calc	0 Iq from -	-MCS Ws Lim	-MCS Iq Lim	Current Lim	Speed Limit	+0 Curr Enbl	+0 Trq Enbl	Atun Trq Lim	+Trq CurLim	Mtrng PwrLim	+Trq Limit	+SpdReg Open	+DriveProtCL	+DriveProtOL	+Current Lim	+Iq Calc	0 Iq from +	+MCS Ws Lim	+MCS Iq Lim	Default	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Power Limit	Torque Limit	-0 Curr Enbl	-0 Trq Enbl	Bus Reg Lim	-Trq CurLim	Regen PwrLim	-Trq Limit	SpdReg Open	-DriveProtCL	-DriveProtOL	-Current Lim	-Iq Calc	0 Iq from -	-MCS Ws Lim	-MCS Iq Lim	Current Lim	Speed Limit	+0 Curr Enbl	+0 Trq Enbl	Atun Trq Lim	+Trq CurLim	Mtrng PwrLim	+Trq Limit	+SpdReg Open	+DriveProtCL	+DriveProtOL	+Current Lim	+Iq Calc	0 Iq from +	+MCS Ws Lim	+MCS Iq Lim																																																																							
Default	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																																																								
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																							
0 = False 1 = True																																																																																																							

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																																																																		
305	Mtr Trq Curr Ref Displays the torque current reference present at the output of the current rate limiter. 100% is equal to 1 per unit (P.U.) rated motor torque.	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: P.U.		RO	Real																																																																																																		
306	DC Bus Voltage Displays measured bus voltage. Note: The maximum value was increased from 1000.0000 to 1170.0000 for firmware version 3.001.	Default: 0.0000 Min/Max: 0.0000/1170.0000 Units: V		RO	Real																																																																																																		
307	Output Voltage Displays RMS line-to-line fundamental motor voltage. This data is averaged and updated every 50 milliseconds.	Default: 0.00 Min/Max: 0.00/3000.00 Units: V		RO	Real																																																																																																		
308	Output Current Displays measured RMS motor current.	Default: 0.00 Min/Max: 0.00/10000.00 Units: A		RO	Real																																																																																																		
309	% Motor Flux Displays the motor flux in % of nominal.	Default: 0.0 Min/Max: 0.0/100.0 Units: % Scale: 100 = 4096		RO	16-bit Integer																																																																																																		
310	Output Freq Displays the motor stator frequency.	Default: 0.00 Min/Max: -/+250.00 Units: Hz		RO	Real																																																																																																		
311	Output Power Motor Power is the calculated product of the torque reference and motor speed feedback. A 125ms filter is applied to this result. Positive values indicate motoring power; negative values indicate regenerative power. Note: The units were changed from kW to Hp for firmware version 2.003.	Default: 0.00 Min/Max: -/+9999.00 Units: Hp		RO	Real																																																																																																		
312	MotorFluxCurr FB Displays the measured per unit motor flux producing current.	Default: 0.0000 Min/Max: 0.0000/1.0000 Units: P.U.		RO	Real																																																																																																		
313	Heatsink Temp Displays the measured temperature of the drive's heatsink.	Default: 0.0000 Min/Max: -30.0000/200.0000 Units: °C		RO	Real																																																																																																		
314	VPL Firmware Rev Displays the major and minor revision levels of the drive's Velocity Position Loop (VPL) software. Notes: The default value was changed from 1.11 to 2.003 for firmware version 2.003. The default value was changed from 2.003 to 3.001 for firmware version 3.001. Changed all values to three decimal places for firmware version 4.001.	Default: 1.003 Min/Max: 0.001/99.999 Scale: 000		RO	16-bit Integer																																																																																																		
315	VPL Build Number Displays the build number of the drive's Velocity Position Loop (VPL) software. Note: The default value was changed from 8001 to 1 for firmware version 2.003.	Default: 1 Min/Max: 1/10000		RO	16-bit Integer																																																																																																		
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" indicates RX frames are being received from nodes upstream. • Bit 15 "Rx Data Enbl" indicates received data is being updated. Note: Bit 8 "Open Wire" was changed to "Reserved", and bit 12 "SOB Present" and bit 14 "Reset Req'd" were added for firmware 2.004. Refer to the <i>SynchLink System Design Guide</i> , publication 1756-TD008, for more information.																																																																																																						
<table><tr><td>Options</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Rx Data Enbl</td><td>Reset Req'd</td><td>Reserved</td><td>SOB Present</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Rx Active</td><td>Tx Active</td><td>In Sync</td><td>Encdr1 Prsnt</td><td>Encdr0 Prsnt</td><td>FB Opt Prsnt</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>x</td><td>0</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True						Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Rx Data Enbl	Reset Req'd	Reserved	SOB Present	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Rx Active	Tx Active	In Sync	Encdr1 Prsnt	Encdr0 Prsnt	FB Opt Prsnt	Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	x	0	x	x	x	x	x	x	0	0	0	0	0	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Rx Data Enbl	Reset Req'd	Reserved	SOB Present	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Rx Active	Tx Active	In Sync	Encdr1 Prsnt	Encdr0 Prsnt	FB Opt Prsnt																																																																							
Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	x	0	x	x	x	x	x	x	0	0	0	0	0																																																																								
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																							
317	SL System Time Displays the SynchLink system time counter.	Default: 0 Min/Max: 0/1048575 Units: µs		RO	32-bit Integer																																																																																																		
318	Posit Spd Output Final output of the position regulator.	Default: 0.0000 Min/Max: -/+14112.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RO	Real																																																																																																		

No.	Name Description	Values		Linkable	Read-Write	Data Type																												
319	Selected Trq Ref Displays the actual selected torque reference value after Par 110 [Speed/TorqueMode].	Default:	0.0		RO	Real																												
		Min/Max:	-/+8.0 P.U.																															
		Units:	P.U.																															
320	Exception Event1 Indicates the presence of certain drive anomalies. In some cases, you may configure the drive's response to these events by entering values in the parameters of the fault/alarm configuration group of the utility file.																																	
	Options	PWM Asynchro	Precharge Er	MC Firmware	PWM Short	VPL/MC Comm	OverCurrent	Ground Fault	Trans Desat	Bus OverVolt	MC Commissn	Over Freq	Inertia Test	DSP Error	DSP Mem Err	Ext Fault In	Inv OL Trip	Inv OL Pend	Inv TempTrip	Inv TempPend	Motor Stall	Mtr OL Pend	Mtr OL Trip	Power Loss	SLink Comm	SLink HW	Ctrl EE Mem	FB Opt1 Loss	FB Opt0 Loss	Encdr1 Loss	Encdr0 Loss	SpdRef Decel	Abs OverSpd	
	Default	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = False	
	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	1 = True
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. Note: Changed bit 14 to "NonCnfgAlarm" for firmware version 3.003.																																	
	Options	Lgx LinkChng	Lgx Closed	Lgx Timeout	Lgx OutOfRun	NetLoss DP16	NetLoss DP15	NetLoss DP14	NetLoss DP13	NetLoss DP12	NetLoss DP11	DPI Loss P6	DPI Loss P5	DPI Loss P4	DPI Loss P3	DPI Loss P2	DPI Loss P1	No Ctrl Devc	NonCnfgAlarm	Interp Synch	EnableHealth	NonCnfgAlarm	VoltFdbkLoss	BusUnderVolt	Ridethru Time	SLink Mult	PowerEE Cksm	BrakeOL Trip	PSC Sys Flt2	PSC Sys Flt1	Ctrl EE Cksm	MC Command	+/- 12v Pwr	
	Default	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = False
	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	1 = True
322	Exception Event3 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. • Bit 11 "HH HW Ver" is sed to indicate a High Horsepower hardware version fault. • Bit 12 "HH CurUnblnc" is used to indicate a High Horsepower output current unbalanced fault. • Bit 13 "HH VltUnblnc" is used to indicate a High Horsepower Bus voltage unbalanced fault. • Bit 29 "Anlgn1 Loss" is used to indicate an Analog Input 1 loss fault. • Bit 30 "Anlgn2 Loss" is used to indicate an Analog Input 2 loss fault. • Bit 31 "Anlgn3 Loss" is used to indicate an Analog Input 3 loss fault. Notes: Bits 16, 20 and 23 were added for firmware version 2.004. Bits 11, 12, 13, 29, 30 and 31 were added for firmware version 3.001. Changed bits 11, 12, 13, 21, and 28 to "NonCnfgAlarm" for firmware version 3.003. Bit 14 "NonCnfgAlarm" was added for firmware version 3.004.																																	
	Options	Anlgn3 Loss	Anlgn2 Loss	Anlgn1 Loss	NonCnfgAlarm	Reserved	Reserved	Reserved	Reserved	NonCnfgAlarm	Reserved	NonCnfgAlarm	Posit Err	Hrd OvrTrvl	Hrd OvrTrvl	Sft OvrTrvl	Sft OvrTrvl	Reserved	NonCnfgAlarm	NonCnfgAlarm	NonCnfgAlarm	NonCnfgAlarm	HH PwrBdTemp	HH PwrEE Er	HHPrChrgCntr	HH PwrBd Prc	HH Drv Ovrld	HH FanFdbkLs	HH BusWrchDg	HH BusCRC Er	HH BusLinkLs	HH BusComDly	HH InPhaselS	
	Default	0	0	0	0	x	x	x	x	0	x	0	0	0	0	0	0	x	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = False
	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	1 = True
323	Fault Status 1 Indicates the occurrence of exception events that have been configured as fault conditions. These events are from Par 320 [Exception Event1].																																	
	Options	PWM Asynchro	Precharge Er	MC Firmware	PWM Short	VPL/MC Comm	OverCurrent	Ground Fault	Trans Desat	Bus OverVolt	MC Commissn	Over Freq	Inertia Test	DSP Error	DSP Mem Err	Ext Fault In	Inv OL Trip	Inv OL Pend	Inv OTmpTrip	Inv OTmpPend	Motor Stall	Mtr OL Pend	Mtr OL Trip	Power Loss	SLink Comm	SLink HW	Ctrl EE Mem	FB Opt1 Loss	FB Opt0 Loss	Encdr1 Loss	Encdr0 Loss	SpdRef Decel	Abs OverSpd	
	Default	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = False
	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	1 = True

No.

Name
Description

Values

Linkable

Read-Write

Data Type

324

Fault Status 2

Indicates the occurrence of exception events that have been configured as fault conditions. These events are from [Par 321](#) [Exception Event2]
Note: Changed bit 14 to “NonCnfgAlarm” for firmware version 3.003.

Options

LgX LinkChng

LgX Closed

LgX Timeout

LgX OutOfRun

NetLoss DPI6

NetLoss DPI5

NetLoss DPI4

NetLoss DPI3

NetLoss DPI2

NetLoss DPI1

DPI Loss P6

DPI Loss P5

DPI Loss P4

DPI Loss P3

DPI Loss P2

DPI Loss P1

No Ctrl Devc

NonCnfgAlarm

Interp Synch

EnableHealth

NonCnfgAlarm

VoltFdbkLoss

BusUnderVolt

Ridethru Time

Slink Mult

PowerEE Cksm

BrakeOL Trip

PSC Sys Flt2

PSC Sys Flt1

Ctrl EE Cksm

MC Command

+/- 12v Pwr

Default

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

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0

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19

18

17

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14

13

12

11

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8

7

6

5

4

3

2

1

0

0 = False

1 = True

325

Fault Status 3

Indicates the occurrence of exception events that have been configured as fault conditions. These events are from [Par 322](#) [Exception Event3].

- Bit 11 “HH HW Ver” is sed to indicate a High Horsepower hardware version fault.
- Bit 12 “HH CurUnblnc” is used to indicate a High Horsepower output current unbalanced fault.
- Bit 13 “HH VltUnblnc” is used to indicate a High Horsepower Bus voltage unbalanced fault.
- Bit 29 “Anlgn1 Loss” is used to indicate an Analog Input 1 loss fault.
- Bit 30 “Anlgn2 Loss” is used to indicate an Analog Input 2 loss fault.
- Bit 31 “Anlgn3 Loss” is used to indicate an Analog Input 3 loss fault.

Notes: Bits 16, 20 and 23 were added for firmware version 2.004. Bits 11, 12, 13, 29, 30 and 31 were added for firmware version 3.001. Changed bit 21 to “Drive Homing” and bit 28 to “+/- 12v Pwr” for firmware version 3.003. Bit 14 “NonCnfgAlarm” was added for firmware version 3.004.

Options

Anlgn3 Loss

Anlgn2 Loss

Anlgn1 Loss

NonCnfgAlarm

Reserved

Reserved

Reserved

Reserved

NonCnfgAlarm

Reserved

NonCnfgAlarm

Posit Err

-Hrd OvrTrvl

+Hrd OvrTrvl

-Sft OvrTrvl

+Sft OvrTrvl

Reserved

NonCnfgAlarm

NonCnfgAlarm

NonCnfgAlarm

NonCnfgAlarm

NonCnfgAlarm

HH PwrBdTemp

HH PwrEE Er

HHPChrgCntrc

HH PwrBd Prc

HH Drv Ovrld

HH FanFdbkLs

HH BusWtchDg

HH BusCRC Er

HH BusLinkLs

HH BusComDly

HH InPhasels

Default

0

0

0

0

x

x

x

x

0

x

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Bit

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28

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26

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23

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21

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19

18

17

16

15

14

13

12

11

10

9

8

7

6

5

4

3

2

1

0

0 = False

1 = True

326

Alarm Status 1

Indicates the occurrence of exception events that have been configured as alarm conditions. These events are from [Par 320](#) [Exception Event1].

Options

NonCnfg Fault

Precharge Er

NonCnfg Fault

NonCnfg Fault

NonCnfg Fault

NonCnfg Fault

NonCnfg Fault

NonCnfg Fault

NonCnfg Fault

NonCnfg Fault

NonCnfg Fault

Inertia Test

NonCnfg Fault

NonCnfg Fault

Ext Fault In

Inv OL Trip

Inv OL Pend

Non Cnfg Fault

Inv TempPend

Motor Stall

Mtr OL Pend

Mtr OL Trip

NonCnfgFault

Sunk Comm

NonCnfgFault

NonCnfgFault

NonCnfgFault

FB Opt 1 Loss

FB Opt0 Loss

Enchr1 Loss

Enchr0 Loss

NonCnfgFault

NonCnfgFault

Default

0

0

0

0

0

0

0

0

0

0

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0

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Bit

31

30

29

28

27

26

25

24

23

22

21

20

19

18

17

16

15

14

13

12

11

10

9

8

7

6

5

4

3

2

1

0

0 = False

1 = True

327

Alarm Status 2

Indicates the occurrence of exception events that have been configured as alarm conditions. These events are from [Par 321](#) [Exception Event2]
Note: Changed bit 14 to “NonCnfgAlarm” for firmware version 3.003.

Options

LgX LinkChng

LgX Closed

LgX Timeout

LgX OutOfRun

NetLoss DPI6

NetLoss DPI5

NetLoss DPI4

NetLoss DPI3

NetLoss DPI2

NetLoss DPI1

DPI Loss P6

DPI Loss P5

DPI Loss P4

DPI Loss P3

DPI Loss P2

DPI Loss P1

NonCnfg Fault

MC CML Fail

Interp Synch

EnableHealth

Runtime Data

VoltFdbkLoss

BusUnderVolt

NonCnfg Fault

Slink Mult

NonCnfg Fault

BrakeOL Trip

NonCnfg Fault

NonCnfg Fault

NonCnfg Fault

NonCnfg Fault

MC Command

NonCnfg Fault

Default

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

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0

0

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0

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0

Bit

31

30

29

28

27

26

25

24

23

22

21

20

19

18

17

16

15

14

13

12

11

10

9

8

7

6

5

4

3

2

1

0

0 = False

1 = True

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																																																															
328	Alarm Status 3 Indicates the occurrence of exception events that have been configured as alarm conditions. These events are from Par 322 [Exception Event3]. • Bit 11 “HH HW Ver” indicates a non-configurable High Horsepower hardware version fault. • Bit 12 “HH CurUnblnc” indicates a non-configurable High Horsepower output current unbalanced fault. • Bit 13 “HH VltUnblnc” indicates a non-configurable High Horsepower Bus voltage unbalanced fault. • Bit 14 “HH Bus Data” indicates when Communication Bus data are mismatched between left side unit and right side unit. • Bit 21 “Drive Homing” when the drive is in “Drive Homing” mode (parameter Par 740 [Position Control]) bit 24 “Find Home” or bit 27 “Return Home” is set to “1”) this alarm is triggered and the drive moves to a home position automatically. • Bit 24 “Drv Waking” when set, the drive is in wake mode and could start at any time. • Bit 28 “+/- 12v Pwr” identifies when the 12V dc control voltage is outside the tolerance range. The positive voltage power exceeds +15.50 V dc and the negative voltage power exceeds -15.50V DC. • Bit 29 “Anlgn1 Loss” indicates a non-configurable Analog Input 1 loss fault. • Bit 30 “Anlgn2 Loss” indicates a non-configurable Analog Input 2 loss fault. • Bit 31 “Anlgn3 Loss” indicates a non-configurable Analog Input 3 loss fault. Notes: Bits 16, 20 and 23 were added for firmware version 2.004. Bits 11, 12, 13, 29, 30 and 31 were added for firmware version 3.001. Changed bit 21 to “Drive Homing” and bit 28 to “+/- 12v Pwr” for firmware version 3.003. Bit 14 “HH Bus Data” was added for firmware version 3.004. Bit 24 “Drv Waking” and 27 “RideThruAlrm” were added for firmware version 5.002.	<table><tr><th>Options</th><th>NonCnfg Fault</th><th>NonCnfg Fault</th><th>NonCnfg Fault</th><th>+/- 12v Pwr</th><th>RideThruAlrm</th><th>Reserved</th><th>Reserved</th><th>Drv Waking</th><th>Stahl Optics</th><th>Reserved</th><th>Drive Homing</th><th>Posit Err</th><th>+Hrd OvrTrvl</th><th>+Hrd OvrTrvl</th><th>-Stf OvrTrvl</th><th>+Stf OvrTrvl</th><th>Reserved</th><th>HH Bus Data</th><th>HH VltUnblnc</th><th>HH CurrUnblnc</th><th>HH HW Ver</th><th>NonCnfg Fault</th><th>NonCnfg Fault</th><th>NonCnfg Fault</th><th>NonCnfg Fault</th><th>NonCnfg Fault</th><th>NonCnfg Fault</th><th>NonCnfg Fault</th><th>NonCnfg Fault</th><th>HH InPhasels</th></tr><tr><td>Default</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True	Options	NonCnfg Fault	NonCnfg Fault	NonCnfg Fault	+/- 12v Pwr	RideThruAlrm	Reserved	Reserved	Drv Waking	Stahl Optics	Reserved	Drive Homing	Posit Err	+Hrd OvrTrvl	+Hrd OvrTrvl	-Stf OvrTrvl	+Stf OvrTrvl	Reserved	HH Bus Data	HH VltUnblnc	HH CurrUnblnc	HH HW Ver	NonCnfg Fault	NonCnfg Fault	NonCnfg Fault	NonCnfg Fault	NonCnfg Fault	NonCnfg Fault	NonCnfg Fault	NonCnfg Fault	HH InPhasels	Default	0	0	0	0	0	x	x	0	0	0	0	0	0	0	0	0	x	0	0	0	0	0	0	0	0	0	0	0	0	0	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			
Options	NonCnfg Fault	NonCnfg Fault	NonCnfg Fault	+/- 12v Pwr	RideThruAlrm	Reserved	Reserved	Drv Waking	Stahl Optics	Reserved	Drive Homing	Posit Err	+Hrd OvrTrvl	+Hrd OvrTrvl	-Stf OvrTrvl	+Stf OvrTrvl	Reserved	HH Bus Data	HH VltUnblnc	HH CurrUnblnc	HH HW Ver	NonCnfg Fault	NonCnfg Fault	NonCnfg Fault	NonCnfg Fault	NonCnfg Fault	NonCnfg Fault	NonCnfg Fault	NonCnfg Fault	HH InPhasels																																																																						
Default	0	0	0	0	0	x	x	0	0	0	0	0	0	0	0	0	x	0	0	0	0	0	0	0	0	0	0	0	0	0																																																																						
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																				
329	Fault TP Sel Enter or write a value to select Fault data displayed in Par 330 [Fault TP Data]. • 24 “ElpsSec.mSec” = Elapsed time in seconds and milliseconds since the last power up • 25 “ElpsMin.Sec” = Elapsed time in minutes and seconds since the last power up • 26 “ElpsHour.Min” = Elapsed time in hours and minutes since the last power up • 27 “ElpsDay.Hour” = Elapsed time in days and hours since the last power up Note: Values 24 - 27 were added for firmware version 4.002.	Default: 0 = “Zero” Options: 0 = “Zero” 14 = “MtrStallTime” 1 = “Abs OverSpd” 15 = “MC Handshake” 2 = “EE Pwr State” 16 = “VPL Handshak” 3 = “Inv DataStat” 17 = “MC Diag” 4 = “Run Time Err” 18 = “PwrLossState” 5 = “LowBus Thres” 19 = “12 volt loss” 6 = “LowBus Detct” 20 = “PwrEE Chksum” 7 = “PwrLosBusVlt” 21 = “Db Read Cnt1” 8 = “MCPLosBusVlt” 22 = “Db Read Cnt2” 9 = “MC Flt Reset” 23 = “Db Read Cnt3” 10 = “Ext Flt Stat” 24 = “ElpsSec.mSec” 11 = “VPL TaskErr” 25 = “Elps Min.Sec” 12 = “Mtr OL Input” 26 = “ElpsHour.Min” 13 = “Mtr OL Outpt” 27 = “ElpsDay.Hour”																																																																																																		
330	Fault TP Data Displays the data selected by Par 329 [Fault TP Sel].	Default: 0 Min/Max: -/+2200000000		RO	Real																																																																																															
331	LstFaultStopMode Displays the action taken by the drive during the last fault. When a fault occurs, an action is taken as a result of that fault.	Default: 0 = “Ignore” Options: 0 = “Ignore” 3 = “Flt RampStop” 1 = “Alarm” 4 = “FltCurLimStop” 2 = “FltCoastStop”																																																																																																		

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																																																															
334	700L AlarmStatus Indicates the occurrence of exception events that have been configured as alarm conditions for PowerFlex 700L (LiquiFlo) drive. • Bit 0 "NonCnfgFault" Not configured as alarm. • Bit 1 "NonCnfgFault" Not configured as alarm. • Bit 2 "NonCnfgFault" Not configured as alarm. • Bit 3 "NonCnfgFault" Not configured as alarm. • Bit 4 "NonCnfgFault" Not configured as alarm. • Bit 5 "NonCnfgFault" Not configured as alarm. • Bit 6 "NonCnfgFault" Not configured as alarm. • Bit 7 "NonCnfgFault" Not configured as alarm. • Bit 8 "NonCnfgFault" Not configured as alarm. • Bit 14 "NonCnfgFault" Not configured as alarm. • Bit 15 "NonCnfgFault" Not configured as alarm. • Bit 16 "NonCnfgFault" Not configured as alarm. • Bit 17 "NonCnfgFault" Not configured as alarm. • Bit 18 "NonCnfgFault" Not configured as alarm. • Bit 19 "NonCnfgFault" Not configured as alarm. • Bit 20 "NonCnfgFault" Not configured as alarm. • Bit 21 "NonCnfgFault" Not configured as alarm. • Bit 22 "NonCnfgFault" Not configured as alarm. • Bit 23 "NonCnfgFault" Not configured as alarm. • Bit 24 "NonCnfgFault" Not configured as alarm. Note: This parameter was added for firmware version 2.003.	<table><tr><td>Options</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>NonCnfgFault</td><td>NonCnfgFault</td><td>NonCnfgFault</td><td>NonCnfgFault</td><td>NonCnfgFault</td><td>NonCnfgFault</td><td>NonCnfgFault</td><td>NonCnfgFault</td><td>NonCnfgFault</td><td>NonCnfgFault</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>NonCnfgFault</td><td>NonCnfgFault</td><td>NonCnfgFault</td><td>NonCnfgFault</td><td>NonCnfgFault</td><td>NonCnfgFault</td><td>NonCnfgFault</td><td>NonCnfgFault</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True	Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault	Reserved	Reserved	Reserved	Reserved	Reserved	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault	Default	x	x	x	x	x	x	x	0	0	0	0	0	0	0	0	0	0	x	x	x	x	x	0	0	0	0	0	0	0	0	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			
Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault	Reserved	Reserved	Reserved	Reserved	Reserved	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault	NonCnfgFault																																																																						
Default	x	x	x	x	x	x	x	0	0	0	0	0	0	0	0	0	0	x	x	x	x	x	0	0	0	0	0	0	0	0																																																																						
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																				
335	Abs OverSpd Lim Sets an incremental speed above Par 76 [Fwd Speed Limit] and below Par 75 [Rev Speed Limit] that is allowable before the drive indicates its speed is out of range.	Default: 352.8000 Min/Max: 0.0000/1750.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RW	Real																																																																																															
336	Motor OL 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.	Default: 1.1500 Min/Max: 1.0000/2.0000 Units: P.U.		RW	Real																																																																																															
337	Mtr I2T Curr Min Sets the minimum current threshold for the motor overload (I ² T) function. The value indicates minimum current at the minimum speed, Par 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 Par 336 [Motor OL Factor].	Default: 0.5000 Min/Max: 0.0500/2.0000 Units: P.U.		RW	Real																																																																																															
338	Mtr I2T Spd Min Sets the minimum speed for the motor overload (I ² T) function. The value indicates minimum speed below the minimum current threshold Par 337 [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 Par 336 [Motor OL Factor]. For more information, please see Motor Overload on page 179 .	Default: 1.0000 Min/Max: 0.0500/1.0000 Units: P.U.		RW	Real																																																																																															
339	Mtr I2T Calibrat Sets the current calibration level for the motor overload (I ² T) function. The value indicates the current level that the drive will fault at this current in 60 seconds.	Default: 2.0000 Min/Max: 1.1000/4.0000 Units: P.U.		RW	Real																																																																																															
340	Mtr I2T Trp ThrH Displays the trip threshold current for the motor overload (I ² T) function. The value depends on the motor speed, and is calculated from the minimum current Par 337 [Mtr I2T Curr Min], the minimum speed Par 338 [Mtr I2T Spd Min] and the motor service factor Par 336 [Motor OL Factor].	Default: 1.1500 Min/Max: 0.0500/2.0000 Units: P.U.		RO	Real																																																																																															
341	Mtr I2T Count The accumulator for Motor Overload detection (Motor I ² T function). When the motor runs at the over rated motor current, the accumulator starts counting up. If the motor runs at below rated motor current, the accumulator counts down. If the value of this parameter exceeds 0.5, the "Motor OLoad Pend" alarm (fault 12) occurs. If the value of this parameter exceeds 1.0, the "Motor OLoad Trip" fault (fault 11) occurs. The value of this parameter is saved in non-volatile memory after power-down if Par 153 [Control Options], bit 20 "Motor OL Ret" is on. Toggling bit 20 of Par 153 [Control Options] clears the value of this parameter. Note: This parameter was added for firmware version 3.001.	Default: 0.0 Min/Max: 0.0/1.5		RO	Real																																																																																															

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																			
343	OL OpnLp CurrLim Displays the current limit set by the Open Loop Inverter Overload (OL) function. This function sets this current limit based on stator current feedback and the current ratings of the drive - continuous and short term (three-second rating). Typically the drive will have a sixty-second rating of 110% of continuous current and a three-second rating at 150% of the continuous. Under normal operating conditions, the open loop function sets this current limit to the short term (three-second) rating. If the function detects an overload, it lowers the limit to the continuous level. After a period of time (typically one to three minutes), the function returns the limit to the short term rating.	Default: 8.0000 Min/Max: 0.0000/8.0000 Units: P.U.		RO	Real																																																			
344	OL ClsLp CurrLim Displays the current limit set by the Closed Loop Inverter Overload (OL) function. This function will set a current limit level based on the values in Par 355 [Iq Ref Limited], Par 313 [Heatsink Temp] and the thermal characteristics of the drive. Under normal operating conditions, the function typically sets the limit at 250% of the continuous drive rating. If the function determines that the power device junction temperature is approaching maximum, it will reduce this limit to the level required to prevent additional heating of the inverter. This level could be as low as the continuous rating of the drive. If the inverter temperature decreases, the function will raise the limit to a higher level. Disable this protection by setting bit 13 "OL ClsLpDsbl" of Par 153 [Control Options].	Default: 8.0000 Min/Max: 0.0000/8.0000 Units: P.U.		RO	Real																																																			
345	Drive OL JnctTmp Displays the calculated junction temperature of the power semiconductors in the inverter. The calculation uses the values of Par 313 [Heatsink Temp], Par 355 [Iq Ref Limited], and inverter thermal characteristics contained in the power EE memory. If this value exceeds the maximum junction temperature (visible in Par 348 [Drive OL TP Data] when Par 347 [Drive OL TP Sel] option 12 "fJunTmprMax" is selected), two faults occur: Inverter Overtemperature Fault (fault code 15), and Junction Overtemperature Fault - indicated by bit 7 "Jnc OverTemp" of Par 346 [Drive OL Status].	Default: 0.0000 Min/Max: -50.0000/300.0000 Units: °C		RO	Real																																																			
346	Drive OL Status Indicates the status of various overload (OL) conditions. • Bit 0 "NTC Shorted" indicates the Negative Temperature Coefficient (NTC) device has a short circuit. • Bit 1 "NTC Open" indicates the NTC has an open circuit. • Bit 2 "HS OverTemp" indicates heatsink temperature is above 105 °C for ratings 1.1...11.0 A, 115 °C for 14...34 A, 100 °C for 40...52 A. • Bit 3 "HS Pending" indicates heatsink temperature is above 95C for ratings 1.1...11 A, 105 °C for 14...34 A, 90 °C for 40...52 A. • Bit 4 "IT Trip" indicates the drive has exceed the 3 second rating of either the 150% normal duty rating or 200% of the heavy duty rating. • Bit 5 "IT Pending" indicates the drive OL integrator is at 50% of the time out time. • Bit 6 "IT Foldback" indicates the drive closed loop current limit is in a fold back condition. The value of the fold back is proportional to the calculated junction temperature. • Bit 7 "Jnc Over Temp" indicates the junction temperature has exceeded the maximum temperature for the power semiconductor device. <table><tr><td>Options</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Jnc OverTemp</td><td>IT Foldback</td><td>IT Pending</td><td>IT Trip</td><td>HS Pending</td><td>HS OverTemp</td><td>NTC Open</td><td>NTC Shorted</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True					Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Jnc OverTemp	IT Foldback	IT Pending	IT Trip	HS Pending	HS OverTemp	NTC Open	NTC Shorted	Default	x	x	x	x	x	x	x	x	0	0	0	0	0	0	0	0	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Jnc OverTemp	IT Foldback	IT Pending	IT Trip	HS Pending	HS OverTemp	NTC Open	NTC Shorted																																								
Default	x	x	x	x	x	x	x	x	0	0	0	0	0	0	0	0																																								
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																								

No.	Name Description	Values	Linkable	Read-Write	Data Type
347	Drive OL TP Sel Enter or write a value to select the drive overload data displayed in Par 348 [Drive OL TP Data]. Note: Value 44 "HH PwrBdTemp" was added for firmware version 2.004. Added values 45 "IGBT CndLoss", 46 "IGBT SwtLoss" and 47 "Fwd CndLoss" for firmware version 3.003.	Default: 0 = "Zero" Options: 0 = "Zero" 24 = "flgbtWatts" 1 = "fAbsIsCurr" 25 = "ilgbtPerMod" 2 = "fDelta" 26 = "fFdThres" 3 = "fAbsIqCurr" 27 = "fFdSlope" 4 = "fOL_L" 28 = "fFdJunCase" 5 = "fOL_m" 29 = "fFdWatts" 6 = "fOL_k" 30 = "fMaxHsDegc" 7 = "fOL_g" 31 = "fCsImp" 8 = "fOL_intg" 32 = "fCsFltr" 9 = "fCL_intg" 33 = "fPwmHz" 10 = "fInvOLClim" 34 = "fElecHz" 11 = "fJuncDegc" 35 = "fModldex" 12 = "fJunTmpMax" 36 = "fBoost" 13 = "f60sPUCur" 37 = "fTotalWatts" 14 = "f60sAmp" 38 = "fHSDegc" 15 = "f3sPUCur" 39 = "iAdconv" 16 = "f3sAmp" 40 = "Jct Temp" 17 = "fRatioInvMtr" 41 = "Jct Tmp HiHp" 18 = "fRatioMtrInv" 42 = "Jct Tmp Fwd" 19 = "iConvertStat" 43 = "HH Loss Intg" 20 = "flgbtThres" 44 = "HH PwrBdTemp" 21 = "flgbtSlope" 45 = "IGBT CndLoss" 22 = "flgbtEnergy" 46 = "IGBT SwtLoss" 23 = "flgbtJuncase" 47 = "Fwd CndLoss"			
348	Drive OL TP Data Displays the value selected by Par 347 [Drive OL TP Sel].	Default: 0.0000 Min/Max: -/+2200000000.0000		RO	Real
350	Iq Actual Ref Displays the value of motor current reference that is present at the output of the divide by flux calculation.	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: P.U.		RO	Real
351	Iq Ref Trim Provides an external source to command, trim or offset the internal motor current reference. This value is summed with Par 350 [Iq Actl Ref] before the current limit is applied. Scaling is in per unit motor current.	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: P.U.	✓	RW	Real
352	Is Actual Lim Displays the largest allowable stator motor current. The range of allowable motor current is limited by the maximum drive current. Scaling is in per unit motor current.	Default: 1.0000 Min/Max: 0.0000/8.0000 Units: P.U.		RO	Real
353	Iq Actual Lim Displays the largest allowable torque producing (Iq) motor current. The range of allowable Iq motor current is limited by the maximum drive current and is adjusted by the motor flux current. Scaling is in per unit Iq motor current.	Default: 1.0000 Min/Max: 0.0000/8.0000 Units: P.U.		RO	Real
354	Iq Rate Limit Enter the maximum rate of change for Current Reference, in per unit current / sec. Par 90 [Spd Reg BW] will be limited to 2/3 of this value.	Default: 1000.0000 Min/Max: 5.0000/10000.0000 Units: /s	✓	RW	Real
355	Iq Ref Limited Displays the current reference output of the rate limiter.	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: P.U.		RO	Real
356	Mtr Current Lim Sets the largest allowable motor stator current. The online maximum value of this parameter is Par 2 [Motor NP FLA]. The online minimum value is 105% of the current indicated in Par 488 [Flux Current].	Default: 1.5000 Min/Max: 0.0000/Calculated Units: P.U.	✓	RW	Real

No.	Name Description	Values	Linkable	Read-Write	Data Type
357	Curr Ref TP Sel Enter or write a value to select current reference data displayed in Par 358 [Curr Ref TP Data]. Note: Added values 20...52 for firmware version 3.003. Added value 53 for firmware version 4.001.	Default: 0 = "Zero" Options: 0 = "Zero" 27 = "Rated Vds" 1 = "Iq Sum" 28 = "Rated Vqs" 2 = "Iq Lim In" 29 = "RatedLamdVds" 3 = "Iq Lim Out" 30 = "RatedLamdds" 4 = "Iq Rate Stat" 31 = "RatedLamd ds" 5 = "IqLmOutNoFil" 32 = "RatedLamd qs" 6 = "MtrCrLimStat" 33 = "Iqs" 7 = "Lim'dMtrCrLm" 34 = "Ids" 8 = "Iq Act Limit" 35 = "Vqs" 9 = "Iq Cal Gain" 36 = "Vds" 10 = "Min Lim Stat" 37 = "We" 11 = "Iq Prescale" 38 = "Torque" 12 = "Iqtols Stat" 39 = "Torque Filtr" 13 = "Flux Status" 40 = "Lamda Ids" 14 = "Flux LPF Out" 41 = "Lamda Iqs" 15 = "Is Per Unit" 42 = "Lamda Vds" 16 = "Iq Actl +Lim" 43 = "Lamda Vqs" 17 = "Iq Actl -Lim" 44 = "Lamda ds" 18 = "Flx Filt Hld" 45 = "Lamda qs" 19 = "Inverse Flux" 46 = "Lamda ds Flt" 20 = "Impedance P.U." 47 = "Lamda qs Flt" 21 = "ImpedanceOhm" 48 = "Torque Ref" 22 = "Rated We" 49 = "Iq Reference" 23 = "Leak Induct" 50 = "1/Motor Pole" 24 = "Rated Torque" 51 = "1/Rated Iqs" 25 = "Rated Ids" 52 = "1/Rated Torq" 26 = "Rated Iqs" 53 = "Rs Temp Coef"			
358	Curr Ref TP Data Sets the limit value for the motor torque producing current.	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: P.U.		RO	Real
359	Motor Flux Est The Q-axis motor voltage is divided by the motor frequency while field weakening is active. This value is used to convert the torque command to a motor current (Iqs) command.	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: P.U.		RO	Real
360	Min Flux Sets the smallest level of flux used to convert Par 303 [Motor Torque Ref] to a current reference above base speed. Note: Changed the minimum value from "0.2500" to "0.1000" for firmware version 4.001.	Default: 0.2500 Min/Max: 0.1000/1.0000 Units: P.U.	✓	RW	Real
361	Flx LpassFilt BW Sets the bandwidth of the low pass filter that 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 Par 360 [Min Flux] is less than 1 per unit.	Default: 12.0000 Min/Max: 0.5000/100.0000 Units: rad/s	✓	RW	Real
362 A	Current Limit Gain Sets the responsiveness of the current limit. This parameter should not be changed by the user. Note: This parameter was added for firmware version 2.003.	Default: 250 Min/Max: 0/10000		RW	16-bit Integer
363 A	Ki Current Limit Current Limit Integral gain. This gain is applied to the current limit error signal to eliminate steady state current limit error. A larger value increases overshoot during a step of motor current/load. This parameter should not be changed by the user. Note: This parameter was added for firmware version 2.003.	Default: 1500 Min/Max: 0/10000		RW	16-bit Integer
364 A	Kd Current Limit Current Limit Derivative gain. This gain is applied to the sensed motor current to anticipate a current limit condition. A larger value reduces overshoot of the current relative to the current limit value. This parameter should not be changed by the user. Note: This parameter was added for firmware version 2.003.	Default: 500 Min/Max: 0/10000		RW	16-bit Integer
365 366 367	Fdbk LsCnfg Pri Fdbk LsCnfg Alt Fdbk LsCnfgPosit Enter a value to configure the drive's response to an Encoder 0/1 Loss exception event. • 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. • 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event.	Default: 2 = "FltCoastStop" Default: 1 = "Alarm" Default: 1 = "Alarm" Options: 1 = "Alarm" 2 = "FltCoastStop"			
368	Cnv NotLogin Cfg Configures the 700L drive's response when the active convertor is not logged-in via a DPI port. Note: This parameter was added for firmware version 3.001.	Default: 2 = "FltCoastStop" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop"			

No.	Name Description	Values	Linkable	Read-Write	Data Type
369	Brake OL Cnfg Enter a value to configure the drive's response to a Brake Overload (OL) Trip exception event. This event is triggered when a Dynamic Brake (DB) overload condition occurs. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event. 3 - Flt RampStop configures the drive to perform a ramp stop and set the appropriate fault bit, in response to this event. 4 - FltCurLimStp configures the drive to perform a current-limit stop and set the appropriate fault bit, in response to this event.	Default: 1 = "Alarm" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop" 3 = "Flt RampStop" 4 = "FltCurLimStp"			
370	HiHp InPhsLs Cfg Selector for the input phase loss configuration. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit in response to this event. 3 - Flt RampStop configures the drive to perform a ramp stop and set the appropriate fault bit in response to this event. 4 - FltCurLimStp configures the drive to perform a current-limit stop and set the appropriate fault bit in response to this event. Notes: The default value was changed from 1 "Alarm" to 3 "Flt RampStop" for firmware version 3.001. The default value was changed from 3 to 2 for firmware version 4.002.	Default 2 = "FltCoastStop" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop" 3 = "Flt RampStop" 4 = "FltCurLimStp"			
371	Mtr OL Trip Cnfg Enter a value to configure the drive's response to a Motor Overload (OL) Trip exception event. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event. 3 - Flt RampStop configures the drive to perform a ramp stop and set the appropriate fault bit, in response to this event. 4 - FltCurLimStp configures the drive to perform a current-limit stop and set the appropriate fault bit, in response to this event.	Default 2 = "FltCoastStop" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop" 3 = "Flt RampStop" 4 = "FltCurLimStp"			
372	Mtr OL Pend Cnfg Enter a value to configure the drive's response to a Motor Overload (OL) Pending exception event. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event. 3 - Flt RampStop configures the drive to perform a ramp stop and set the appropriate fault bit, in response to this event. 4 - FltCurLimStp configures the drive to perform a current-limit stop and set the appropriate fault bit, in response to this event.	Default 1 = "Alarm" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop" 3 = "Flt RampStop" 4 = "FltCurLimStp"			
373	Motor Stall Time Enter a value to specify the time delay between when the drive detects a Motor Stall condition and when it declares the exception event.	Default: 1.0000 Min/Max: 0.1000/3000.0000 Units: s	✓	RW	Real
374	Motor Stall Cnfg Enter a value to configure the drive's response to a Motor Stall exception event. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event. 3 - Flt RampStop configures the drive to perform a ramp stop and set the appropriate fault bit, in response to this event. 4 - FltCurLimStp configures the drive to perform a current-limit stop and set the appropriate fault bit, in response to this event.	Default 0 = "Ignore" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop" 3 = "Flt RampStop" 4 = "FltCurLimStp"			

No.	Name Description	Values	Linkable	Read-Write	Data Type
375	Inv OT Pend Cnfg Enter a value to configure the drive's response to a Inverter Over-Temperature (OT) Pending exception event. This event is triggered when the Inverter Negative Temperature Coefficient (NTC) function detects the heat-sink temperature reaches to the overload warning level. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event. 3 - Flt RampStop configures the drive to perform a ramp stop and set the appropriate fault bit, in response to this event. 4 - FltCurLimStp configures the drive to perform a current-limit stop and set the appropriate fault bit, in response to this event.	Default: 1 = "Alarm" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop" 3 = "Flt RampStop" 4 = "FltCurLimStp"			
376	Inv OL Pend Cnfg Enter a value to configure the drive's response to an Inverter Overload (OL) Pending exception event. This event is triggered when one of the Inverter Protection Current-Over-Time functions (Open Loop or Closed Loop) detects current and temperature at warning levels. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event. 3 - Flt RampStop configures the drive to perform a ramp stop and set the appropriate fault bit, in response to this event. 4 - FltCurLimStp configures the drive to perform a current-limit stop and set the appropriate fault bit, in response to this event.	Default: 1 = "Alarm" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop" 3 = "Flt RampStop" 4 = "FltCurLimStp"			
377	Inv OL Trip Cnfg Enter a value to configure the drive's response to an Inverter Overload (OL) Trip exception event. This event is triggered when one of the Inverter Protection Current-Over-Time functions (Open Loop or Closed Loop) detects current and temperature at a fault level. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event.	Default: 1 = "Alarm" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop"			
378	Interp Flt Cnfg Enter a value to configure the drive's response to a position interpolator exception event. If the interpolator loses the synchronization pulse or is out of synch, this event occurs.	Default: 1 = "Alarm" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop"		3 = "Flt RampStop" 4 = "FltCurLimStp"	
379	Ext Flt/Alm Cnfg Enter a value to configure the drive's response to an External Input exception event. The event is triggered by a digital input that is configured for auxiliary fault or auxiliary aux fault by selecting 3 "Ext Fault" or 38 "ExtFault Inv" in Par 825 [DigIn 1 Sel], Par 826 [DigIn 2 Sel] or Par 827 [DigIn 3 Sel]. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event. 3 - Flt RampStop configures the drive to perform a ramp stop and set the appropriate fault bit, in response to this event. 4 - FltCurLimStp configures the drive to perform a current-limit stop and set the appropriate fault bit, in response to this event.	Default: 2 = "FltCoastStop" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop" 3 = "Flt RampStop" 4 = "FltCurLimStp"			
381	PreChrg Err Cnfg Enter a value to configure the drive's response to a Precharge Error exception event. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event.	Default: 2 = "Alarm" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop"			
382	MC Cmd Lim Cnfg Enter a value to configure the drive's response to a Motor-Controller (MC) Command Limitation exception event. This event is triggered when the motor-controller detects limit of the command values used in the motor-controller, and returns the exception event to the Velocity Position Loop (VPL). 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event.	Default: 2 = "Alarm" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop"			

No.	Name Description	Values	Linkable	Read-Write	Data Type
383	SL CommLoss Data Enter a value to determine what is done with the data received from SynchLink when a communication loss occurs. Refer to Par 902 [SL Error Status] for possible causes of communication loss. 0 - Zero Data Resets data to zero. 1 - Last State Holds data in its last state.	Default: 1 = "Last State" Options: 0 = "Zero Data" 1 = "Last State"			
 ATTENTION: Risk of injury or equipment damage exists. Par 383 [SL CommLoss Data] lets you determine the action of the drive if communications are disrupted. By default this parameter causes the drive 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.					
384	SL CommLoss Cnfg Enter a value to configure the drive's response to SynchLink communication loss. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event. 3 - Flt RampStop configures the drive to perform a ramp stop and set the appropriate fault bit, in response to this event. 4 - FltCurLimStp configures the drive to perform a current-limit stop and set the appropriate fault bit, in response to this event.	Default: 2 = "FltCoastStop" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop" 3 = "Flt RampStop" 4 = "FltCurLimStp"			
 ATTENTION: Risk of injury or equipment damage exists. Par 384 [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.					
385	Lgx CommLossData Enter a value to configure what the drive does with the data received from the DriveLogix controller when the connection is closed or times out. 0 - Zero Data Resets data to zero. 1 - Last State Holds data in its last state.	Default: 1 = "Last State" Options: 0 = "Zero Data" 1 = "Last State"			
 ATTENTION: Risk of injury or equipment damage exists. Par 385 [Lgx CommLossData] lets you determine the action of the drive if communications are disrupted. By default this parameter causes the drive 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.					
386	Lgx OutOfRunCnfg Enter a value to configure the drive's response to the DriveLogix processor being in a "Non-Run" mode. Non-Run modes include Program, Remote-Program and Faulted. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event. 3 - Flt RampStop configures the drive to perform a ramp stop and set the appropriate fault bit, in response to this event. 4 - FltCurLimStp configures the drive to perform a current-limit stop and set the appropriate fault bit, in response to this event.	Default: 2 = "FltCoastStop" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop" 3 = "Flt RampStop" 4 = "FltCurLimStp"			
 ATTENTION: Risk of injury or equipment damage exists. Par 386 [Lgx OutOfRunCnfg] 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.					

No.	Name Description	Values	Linkable	Read-Write	Data Type
387	Lgx Timeout Cnfg Enter a value to configure the drive's response to a "Controller-to-Drive" connection timeout, as detected by the drive. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event. 3 - Flt RampStop configures the drive to perform a ramp stop and set the appropriate fault bit, in response to this event. 4 - FltCurLimStp configures the drive to perform a current-limit stop and set the appropriate fault bit, in response to this event.	Default 2 = "FltCoastStop" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop" 3 = "Flt RampStop" 4 = "FltCurLimStp"			
 ATTENTION: Risk of injury or equipment damage exists. Par 387 [Lgx Timeout 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.					
388	Lgx Closed Cnfg Enter a value to configure the drive's response to the controller closing the "Controller-to-Drive" connection. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event. 3 - Flt RampStop configures the drive to perform a ramp stop and set the appropriate fault bit, in response to this event. 4 - FltCurLimStp configures the drive to perform a current-limit stop and set the appropriate fault bit, in response to this event.	Default 2 = "FltCoastStop" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop" 3 = "Flt RampStop" 4 = "FltCurLimStp"			
 ATTENTION: Risk of injury or equipment damage exists. Par 388 [Lgx Closed 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.					
389	Lgx LinkChngCnfg Enter a value to configure the drive's response to "Controller-to-Drive" default links being removed. A default link is a link automatically set up when a communication format is selected for the Controller to Drive connection. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event. 3 - Flt RampStop configures the drive to perform a ramp stop and set the appropriate fault bit, in response to this event. 4 - FltCurLimStp configures the drive to perform a current-limit stop and set the appropriate fault bit, in response to this event.	Default 2 = "FltCoastStop" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop" 3 = "Flt RampStop" 4 = "FltCurLimStp"			
 ATTENTION: Risk of injury or equipment damage exists. Par 389 [Lgx LinkChngCnfg] 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.					

No.	Name Description	Values	Linkable	Read-Write	Data Type
390	SL MultErr Cnfg Enter a value to configure the Drive Module's response to a SynchLink Multiplier error. Refer to Par 927 [SL Mult State] for possible causes for multiplier errors. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event. 3 - Flt RampStop configures the drive to perform a ramp stop and set the appropriate fault bit, in response to this event. 4 - FltCurLimStp configures the drive to perform a current-limit stop and set the appropriate fault bit, in response to this event.	Default: 2 = "FltCoastStop" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop" 3 = "Flt RampStop" 4 = "FltCurLimStp"			
 ATTENTION: Risk of injury or equipment damage exists. Par 390 [SL MultErr 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.					
391	DPI CommLoss Cfg Enter a value to configure the drive's response to the failure of a DPI port. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event. 3 - Flt RampStop configures the drive to perform a ramp stop and set the appropriate fault bit, in response to this event. 4 - FltCurLimStp configures the drive to perform a current-limit stop and set the appropriate fault bit, in response to this event.	Default: 2 = "FltCoastStop" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop" 3 = "Flt RampStop" 4 = "FltCurLimStp"			
 ATTENTION: Risk of injury or equipment damage exists. Par 391 [DPI CommLoss Cfg] 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.					
392	NetLoss DPI Cnfg Enter a value to configure the drive's response to a communication fault from a network card at a DPI port. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event. 3 - Flt RampStop configures the drive to perform a ramp stop and set the appropriate fault bit, in response to this event. 4 - FltCurLimStp configures the drive to perform a current-limit stop and set the appropriate fault bit, in response to this event.	Default: 2 = "FltCoastStop" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop" 3 = "Flt RampStop" 4 = "FltCurLimStp"			
 ATTENTION: Risk of injury or equipment damage exists. Par 392 [NetLoss DPI 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.					
393	BusUndervoltCnfg Enter a value to configure the drive's response to the DC Bus voltage falling below the minimum value. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event. 3 - Flt RampStop configures the drive to perform a ramp stop and set the appropriate fault bit, in response to this event. 4 - FltCurLimStp configures the drive to perform a current-limit stop and set the appropriate fault bit, in response to this event.	Default: 1 = "Alarm" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop" 3 = "Flt RampStop" 4 = "FltCurLimStp"			

No.	Name Description	Values	Linkable	Read-Write	Data Type
394	VoltFdbkLossCnfg Enter a value to configure the drive's response to a communication error between Motor Control (MC) and the motor voltage feedback board. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event.	Default: 2 = "FltCoastStop" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop"			
395	+Sft OvrTrvlCnfg Enter a value to configure the drive's response to a positive software positioning over travel condition. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event. 3 - Flt RampStop configures the drive to perform a ramp stop and set the appropriate fault bit, in response to this event. 4 - FltCurLimStp configures the drive to perform a current-limit stop and set the appropriate fault bit, in response to this event.	Default: 1 = "Alarm" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop" 3 = "Flt RampStop" 4 = "FltCurLimStp"			
396	-Sft OvrTrvlCnfg Enter a value to configure the drive's response to a negative software positioning over travel condition. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event. 3 - Flt RampStop configures the drive to perform a ramp stop and set the appropriate fault bit, in response to this event. 4 - FltCurLimStp configures the drive to perform a current-limit stop and set the appropriate fault bit, in response to this event.	Default: 1 = "Alarm" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop" 3 = "Flt RampStop" 4 = "FltCurLimStp"			
397	+Hrd OvrTrvlCnfg Enter a value to configure the drive's response to a positive hardware positioning over travel condition. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event. 3 - Flt RampStop configures the drive to perform a ramp stop and set the appropriate fault bit, in response to this event. 4 - FltCurLimStp configures the drive to perform a current-limit stop and set the appropriate fault bit, in response to this event.	Default: 1 = "Alarm" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop" 3 = "Flt RampStop" 4 = "FltCurLimStp"			
398	-Hrd OvrTrvlCnfg Enter a value to configure the drive's response to a negative hardware positioning over travel condition. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event. 3 - Flt RampStop configures the drive to perform a ramp stop and set the appropriate fault bit, in response to this event. 4 - FltCurLimStp configures the drive to perform a current-limit stop and set the appropriate fault bit, in response to this event.	Default: 1 = "Alarm" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop" 3 = "Flt RampStop" 4 = "FltCurLimStp"			
399	Position ErrCnfg Enter a value to configure the drive's response to a position error condition. 0 - Ignore configures the drive to continue running, as normal, when this event occurs. 1 - Alarm configures the drive to continue running and set the appropriate alarm bit when this event occurs. 2 - FltCoastStop configures the drive to perform a coast stop and set the appropriate fault bit, in response to this event. 3 - Flt RampStop configures the drive to perform a ramp stop and set the appropriate fault bit, in response to this event. 4 - FltCurLimStp configures the drive to perform a current-limit stop and set the appropriate fault bit, in response to this event.	Default: 1 = "Alarm" Options: 0 = "Ignore" 1 = "Alarm" 2 = "FltCoastStop" 3 = "Flt RampStop" 4 = "FltCurLimStp"			
400	Rated Amps Current rating of the inverter. The drive automatically sets this at power up. Notes: The maximum value was changed for firmware version 2.003. The maximum value was changed from 2500.0000 to 3000.0000 for firmware version 4.002.	Default: 22.0000 Min/Max: 0.1000/3000.0000 Units: A		RO	Real

No.	Name Description	Values	Linkable	Read-Write	Data Type
401	Rated Volts Nameplate voltage rating of the inverter. The drive automatically sets this at power up.	Default: 480 Min/Max: 75/750 Units: V		RO	16-bit Integer
402	 PWM Frequency Carrier frequency for the PWM output of the drive. Drive derating may occur at higher carrier frequencies. For derating information, refer to the PowerFlex Reference Manual. Default is dependant on power structure of the drive. Note: This parameter was changed for firmware version 3.004 to not allow changes while the drive is running.	Default: 2.0000 (Fr 5, 6, 9 & Up) 4.0000 (Fr 1-4) Min/Max: 1.0000/15.0000 (10.0000 Fr 5, 6, 9 & Up) Units: kHz		RW	Real
403	 Voltage Class Sets the drive configuration for high or low voltage class (for example, 400...480V AC drive). Allows choice of configuration and affects many drive parameters including drive rated current, voltage, power, over loads and maximum PWM carrier frequency. Note: This parameter was changed for firmware version 3.004 to allow the drive to produce an output voltage limited by Par 531 [Maximum Voltage] (or maximum voltage defined by the DC bus voltage level, Par 306 [DC Bus Voltage], and DC bus voltage utilization limit, Par 500 [Bus Util Limit]).	Default: 3 = "High Voltage" Options: 2 = "Low Voltage" 3 = "High Voltage"			
404	 Dead Time The time delay between turning off and turning on an upper device and a lower device in the power structure. This parameter is set at power up and is not user adjustable.	Default: 5.0000 Min/Max: 2.0000/100.0000 Units: μs		RO	Real
405	 Dead Time Comp The amount of voltage correction used to compensate for the loss of voltage during dead time. Do not adjust. Contact factory for alternative settings.	Default: 0 Min/Max: 0/200 Units: %		RW	16-bit Integer
406	 Power Loss Mode Enter a value to configure the drive's response to a loss of input power, as sensed by an input voltage below the value specified in Par 408 [Power Loss Level]. - Enter a value of "0" to make the drive fault and coast to a stop (supply no current to the motor) after the amount of time specified in Par 407 [Power Loss Time] has expired. - Enter a value of "2" to make the drive fault and continue "normal" operation after the amount of time specified in Par 407 [Power Loss Time] has expired. - Enter a value of "5" to make the drive provide only motor flux current during the power loss time.	Default: 0 = "Coast" Options: 0 = "Coast" 3 = "Reserved" 1 = "Reserved" 4 = "Reserved" 2 = "Continue" 5 = "Flux Only"			
407	Power Loss Time Sets the amount of time that the drive will remain in a ride through condition before a fault is detected.	Default: 2.0000 Min/Max: 0.0000/60.0000 Units: s		RW	Real
408	Power Loss Level Sets the percentage of the bus voltage at which ride-through begins and modulation ends. When the bus voltage falls below this level and Par 406 [Power Loss Mode] is set to 0 "Coast" or 5 "Flux Only", an alarm (F92 "Ride Thru") will be displayed on the HIM and the drive prepares for an automatic restart. Enter a percentage of the bus voltage derived from the high voltage setting for the voltage class. For example: On a 400-480V drive, $0.221 \times 480Vac \times \sqrt{2} = 150Vdc$ Note: The definition was updated to include the bit settings for parameter 406 for firmware version 4.002.	Default: 22.1 Min/Max: 15/95 Units: % Scale: 0		RW	16-bit Integer
409	 Line Undervolts Controls the level of bus voltage that is needed to complete precharge and sets the level for undervoltage alarm/fault detection. Enter a percentage of the bus voltage derived from the value in Par 401 [Rated Volts]. For example: on a 480V drive, $0.615 \times 480Vac \times \sqrt{2} = 418Vdc$	Default: 61.5000 Min/Max: 10.0000/90.0000 Units: %		RW	Real
410	 PreChrg TimeOut Sets the time duration of precharge. If bus voltage does not stabilize within this amount of time, a Precharge Error exception event occurs.	Default: 30.0000 Min/Max: 10.0000/180.0000 Units: s		RW	Real
411	PreChrg Control Must equal 1 to allow drive to exit precharge and begin to run. Link this parameter to a controller output word to coordinate the precharge of multiple drives.	Default: 1 = "Enbl PrChrg" Options: 0 = "Hold PrChrg" 1 = "Enbl PrChrg"			

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																																																																																		
412	Power EE TP Sel Enter or write a value to select drive power EEPROM data displayed in Par 413 [Power EE TP Data]. The default is 0 "Zero". Note: Options 74 - 92 were changed and options 93 - 111 were added for firmware version 3.001. Options: <table><tr><td>0 = Zero</td><td>19 = Bus VltScale</td><td>38 = IGBT Rated A</td><td>61 = ConvT Type</td><td>80 = HH1 P/B ID</td><td>99 = HH2 P/B ID</td></tr><tr><td>1 = Volt Class</td><td>20 = Sml PS Watts</td><td>39 = IGBT V Thres</td><td>62 = DC Bus Induc</td><td>81 = HH1 S/W ID</td><td>100 = HH2 S/W ID</td></tr><tr><td>2 = Assy Rev</td><td>21 = Sml PS Min V</td><td>40 = IGBT Slope R</td><td>63 = AC Inp Induc</td><td>82 = HH1 P/B Rev</td><td>101 = HH2 P/B Rev</td></tr><tr><td>3 = ASA S/N</td><td>22 = Lrg PS Watts</td><td>41 = IGBT Sw Engy</td><td>64 = Precharg Res</td><td>83 = HH1 S/W Rev</td><td>102 = HH2 S/W Rev</td></tr><tr><td>4 = Manuf Year</td><td>23 = Lrg PS Min V</td><td>44 = IGBT CS Tres</td><td>65 = PrechThrm Tc</td><td>84 = HH1 Extr Data</td><td>103 = HH2 ExtrData</td></tr><tr><td>5 = Manuf Month</td><td>24 = Inv Rated Kw</td><td>45 = IGBT CS Tc</td><td>66 = Mtr NP Units</td><td>85 = HH1 VoltIndx</td><td>104 = HH2 VoltIndx</td></tr><tr><td>6 = Manuf Day</td><td>25 = Inv Rated V</td><td>46 = Diode V Thrs</td><td>67 = Mtr NP Power</td><td>86 = HH1 SizelIndx</td><td>105 = HH2 SizelIndx</td></tr><tr><td>7 = Tst ProcStat</td><td>26 = Inv Rated A</td><td>47 = Diode SlopeR</td><td>68 = Mtr NP Volts</td><td>87 = HH1 Option</td><td>106 = HH2 Option</td></tr><tr><td>8 = Life PwrCycl</td><td>27 = Inv 1min Amp</td><td>48 = Diode JC Tr</td><td>69 = Mtr NP Amps</td><td>88 = HH1 HrdPrdct</td><td>107 = HH2 HrdPrdct</td></tr><tr><td>9 = Life Pwrup</td><td>28 = inv 3sec Amp</td><td>49 = Diode JC Tc</td><td>70 = Mtr NP Freq</td><td>89 = HH1 H/W Mdfy</td><td>108 = HH2 H/W Mdfy</td></tr><tr><td>10 = Life RunTime</td><td>29 = SW OverC Amp</td><td>50 = GBT Tjmax</td><td>71 = Mtr NP RPM</td><td>90 = HH1 1V/Amp</td><td>109 = HH2 1V/Amp</td></tr><tr><td>11 = Kw Accum</td><td>30 = DC Bus Cap</td><td>51 = HS Max DegC</td><td>72 = Mtr IR Vdrop</td><td>91 = HH1 2s/Amp</td><td>110 = HH2 2s/Amp</td></tr><tr><td>12 = Mw Hrs Accum</td><td>31 = Min PWM Khz</td><td>52 = DB IGBT Amp</td><td>73 = Mtr Id Ref</td><td>92 = HH1 Scale</td><td>111 = HH2 Scale</td></tr><tr><td>13 = Inv High Vlt</td><td>32 = Max PWM Khz</td><td>53 = DB ohms</td><td>74 = HH1 Data Rev</td><td>93 = HH2 Data Rev</td><td></td></tr><tr><td>14 = Reserved</td><td>33 = Dfl PWM Khz</td><td>54 = DB E Jo/degC</td><td>75 = HH1 Dev Type</td><td>94 = HH2 Dev Type</td><td></td></tr><tr><td>15 = Fan/Pwr Cntl</td><td>34 = PWM Dead us</td><td>55 = DB EB C/Watt</td><td>76 = HH1 Serial #</td><td>95 = HH2 Serial #</td><td></td></tr><tr><td>16 = Temp Sensor</td><td>35 = Drive Frame</td><td>56 = DB B Jo/degC</td><td>77 = HH1 Test Date</td><td>96 = HH2 TestDate</td><td></td></tr><tr><td>17 = Phs AmpScale</td><td>36 = IGBTs per Pk</td><td>57 = DB BA C/Watt</td><td>78 = HH1 Vcn Code</td><td>97 = HH2 Vcn Code</td><td></td></tr><tr><td>18 = Gnd AmpScale</td><td>37 = GBT Rated V</td><td>60 = DB Ambt Tmax</td><td>79 = HH1 CrsCnclID</td><td>98 = HH2 CrsCnclID</td><td></td></tr></table>	0 = Zero	19 = Bus VltScale	38 = IGBT Rated A	61 = ConvT Type	80 = HH1 P/B ID	99 = HH2 P/B ID	1 = Volt Class	20 = Sml PS Watts	39 = IGBT V Thres	62 = DC Bus Induc	81 = HH1 S/W ID	100 = HH2 S/W ID	2 = Assy Rev	21 = Sml PS Min V	40 = IGBT Slope R	63 = AC Inp Induc	82 = HH1 P/B Rev	101 = HH2 P/B Rev	3 = ASA S/N	22 = Lrg PS Watts	41 = IGBT Sw Engy	64 = Precharg Res	83 = HH1 S/W Rev	102 = HH2 S/W Rev	4 = Manuf Year	23 = Lrg PS Min V	44 = IGBT CS Tres	65 = PrechThrm Tc	84 = HH1 Extr Data	103 = HH2 ExtrData	5 = Manuf Month	24 = Inv Rated Kw	45 = IGBT CS Tc	66 = Mtr NP Units	85 = HH1 VoltIndx	104 = HH2 VoltIndx	6 = Manuf Day	25 = Inv Rated V	46 = Diode V Thrs	67 = Mtr NP Power	86 = HH1 SizelIndx	105 = HH2 SizelIndx	7 = Tst ProcStat	26 = Inv Rated A	47 = Diode SlopeR	68 = Mtr NP Volts	87 = HH1 Option	106 = HH2 Option	8 = Life PwrCycl	27 = Inv 1min Amp	48 = Diode JC Tr	69 = Mtr NP Amps	88 = HH1 HrdPrdct	107 = HH2 HrdPrdct	9 = Life Pwrup	28 = inv 3sec Amp	49 = Diode JC Tc	70 = Mtr NP Freq	89 = HH1 H/W Mdfy	108 = HH2 H/W Mdfy	10 = Life RunTime	29 = SW OverC Amp	50 = GBT Tjmax	71 = Mtr NP RPM	90 = HH1 1V/Amp	109 = HH2 1V/Amp	11 = Kw Accum	30 = DC Bus Cap	51 = HS Max DegC	72 = Mtr IR Vdrop	91 = HH1 2s/Amp	110 = HH2 2s/Amp	12 = Mw Hrs Accum	31 = Min PWM Khz	52 = DB IGBT Amp	73 = Mtr Id Ref	92 = HH1 Scale	111 = HH2 Scale	13 = Inv High Vlt	32 = Max PWM Khz	53 = DB ohms	74 = HH1 Data Rev	93 = HH2 Data Rev		14 = Reserved	33 = Dfl PWM Khz	54 = DB E Jo/degC	75 = HH1 Dev Type	94 = HH2 Dev Type		15 = Fan/Pwr Cntl	34 = PWM Dead us	55 = DB EB C/Watt	76 = HH1 Serial #	95 = HH2 Serial #		16 = Temp Sensor	35 = Drive Frame	56 = DB B Jo/degC	77 = HH1 Test Date	96 = HH2 TestDate		17 = Phs AmpScale	36 = IGBTs per Pk	57 = DB BA C/Watt	78 = HH1 Vcn Code	97 = HH2 Vcn Code		18 = Gnd AmpScale	37 = GBT Rated V	60 = DB Ambt Tmax	79 = HH1 CrsCnclID	98 = HH2 CrsCnclID					
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413	Power EE TP Data Displays the data selected by Par 412 [Power EE TP Sel].	Default: 0 Min/Max: -/+2200000000		RO	Real																																																																																																																		
414	Brake/Bus Cnfg Configures the brake and bus operation of the drive. - Set bit 0 "Brake Enable" to enable the operation of the internal brake transistor. - Set bit 1 "Brake Extern" to configure the brake to use an external resistor. - Set bit 2 "Bus Ref High" to select the "high" voltage setting as the turn-on point for the Bus Voltage Regulator. With the "high" setting brake operation starts when bus voltage reaches the value of Par 415 [BusReg/Brake Ref], and Bus Voltage Regulator operation starts when bus voltage reaches the value of Par 415 [BusReg/Brake Ref] plus 4.5%. With the "low" setting, the bus regulator turns on first at the value set by Par 415 [BusReg/Brake Ref] and then the dynamic braking turns on when there are any transients above the value set in Par 415 [BusReg/Brake Ref]. - Set bit 3 "Bus Reg En" to enable the Bus Voltage Regulator. The output of the Bus Voltage Regulator is summed with Par 128 [Regen Power Lim] and fed into the Power Limit Calculator. It, in effect, reduces regenerative torque references when the bus voltage is too high. Notes: This parameter was changed to non-linkable and bits 5 and 6 were added for future use - not active for use with firmware version 3.001. Remove bits 5 and 6 for firmware version 4.001 - not used.	<table><tr><td>Options</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Bus Reg En</td><td>Bus Ref High</td><td>Brake Extern</td><td>Brake Enable</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>1</td><td>1</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td><td></td></tr></table> 0 = False 1 = True	Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Bus Reg En	Bus Ref High	Brake Extern	Brake Enable	Default	x	x	x	x	x	x	x	x	x	x	x	x	x	1	1	0	0	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																
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Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																																																							
415	BusReg/Brake Ref Sets the "turn-on" voltage for the bus regulator and brakes. Enter a percentage of the high voltage setting for the voltage class. For example, on a 400...480V AC drive, $111 \times \sqrt{2} \times 480 = VDC$ Note: The minimum value for frame 5 and up, 600V AC input drives was changed from 110.5000 to 100.0000 for firmware version 4.002. (1) The minimum value is 100.0000 for frame 5 and up, 600V AC input drives.	Default: 111.0000 Min/Max: 110.5000 ⁽¹⁾ /117.8000 Units: %		RW	Real																																																																																																																		

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																		
416	Brake PulseWatts  Limits the power delivered to the external Dynamic Brake (DB) resistor for one second, without exceeding the rated element temperature. You may change the value of this parameter only if you have selected an external DB resistor (set bit 1 "Brake Extern" of Par 414 [Brake/Bus Cnfg]. If this rating is not available from the resistor vendor, you can approximate it with this equation: Par 416 [Brake PulseWatts] = 75,000 x Weight, where Weight equals the weight of resistor wire element in pounds (not the entire weight of the resistor). Another equation you can use is: Par 416 [Brake PulseWatts] = Time Constant x Brake Watts; where Time Constant equals the amount of time to reach 63% of its rated temperature while the maximum power is applied, and Brake Watts is the peak power rating of the resistor. Note: The maximum value was changed from 1000000.0000 to 1000000000.0000 for firmware version 3.001.	Default: 2000.0000 Min/Max: 1.0000/1000000000.0000 Units: W		RW	Real																																																		
417	Brake Watts  Sets the continuous rated power reference for the Dynamic Brake (DB). You may change the value of this parameter only if you have selected and external DB resistor (set bit 1 "Brake Extern" of Par 414 [Brake/Bus Cnfg]. Note: The maximum value was changed from 5000.0000 to 500000.0000 for firmware version 3.001.	Default: 100.0000 Min/Max: 0.0000/500000.0000 Units: W		RW	Real																																																		
418	Brake TP Sel Enter or write a value to select the drive brake data displayed in Par 419 [Brake TP Data].	Default: 0 = "Zero" Options: 0 = "Zero" 10 = "Data State" 1 = "Duty Cycle" 11 = "MC BrakeEnbl" 2 = "Power Actual" 12 = "1/rdb" 3 = "Max BodyTemp" 13 = "1/th_eb" 4 = "Max ElemTemp" 14 = "1/ce" 5 = "BodyTemp Act" 15 = "tamax" 6 = "ElemTemp Act" 16 = "1/th_ba" 7 = "BTmpTripStat" 17 = "1/cb" 8 = "ETmpTripStat" 18 = "DB IGBT Amp" 9 = "Int DB Ohms"																																																					
419	Brake TP Data Displays the data selected by Par 418 [Brake TP Sel].	Default: 0.0000 Min/Max: -/+2200000000.0000		RO	Real																																																		
420	Pwr Strct Mode Displays the power structure used in the drive. This is an identifier to the firmware for power structure control. • Bit 0 "Lo Pwr Strct" = PowerFlex 700S Frame 1 to 6 • Bit 1 "Hi Pwr Strct" = PowerFlex 700S above Frame 6 • Bit 3 "Parallel Drv" = PowerFlex 700S Frame 12 Note: Bit 3 "Parallel Drv" was added for firmware version 3.001. <table><tr><td>Options</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Parallel Drv</td><td>PF 700L</td><td>Hi Pwr Strct</td><td>Lo PwrStrct</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True	Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Parallel Drv	PF 700L	Hi Pwr Strct	Lo PwrStrct	Default	x	x	x	x	x	x	x	x	x	x	x	x	0	0	0	0	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			
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Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																							
421	Iqs Integ Freq  Sets the break frequency of the torque producing (q-axis) current regulator. This and Par 422 [Iqs Reg P Gain] determine the integral gain for the q-axis current regulator. Set by the autotune procedure. Do not change this value.	Default: 10 Min/Max: 0/32767 Units: rad/s		RW	16-bit Integer																																																		
422	Iqs Reg P Gain  Sets the proportional gain of the torque producing (q-axis) current regulator. Set by the autotune procedure. Do not change this value.	Default: 1.0 Min/Max: 0.0/100.0 Scale: x 10		RW	16-bit Integer																																																		
423	Iqs Rate Limit  Sets the limit of the rate of change for the torque producing (q-axis) current regulator. Do not change this parameter. Use Par 355 [Iq Rate Limited] to control the q-axis current rate limit.	Default: 800.0 Min/Max: 0.0/800.0 Units: %/ms Scale: x 10		RW	16-bit Integer																																																		
424	Flux Ratio Ref  Active only in the Field Oriented Control (FOC) 2 motor control mode (when Par 485 [Motor Ctrl Mode] equals 1 - "FOC 2"). Provides a scaling factor for the flux producing (d-axis) current reference. • When active (Par 511 [FVC2 Mode Config], bit 28 "FlxRatRef Use" is set), Flux Producing (d-axis) Current Reference = Par 488 [Flux Current] x Par 424 [Flux Ratio Ref]. • When inactive (Par 511 [FVC2 Mode Config], bit 28 "FlxRatRef Use" is cleared) Flux Producing (d-axis) Current Reference = Par 488 [Flux Current] below base speed and Flux Producing (d-axis) Current Reference = Par 488 [Flux Current] x motor base speed/motor speed above base speed.	Default: 99.99 Min/Max: 12.50/399.99 Units: % Scale: 100 = 32767		RW	16-bit Integer																																																		

No.	Name Description	Values	Linkable	Read-Write	Data Type
425 A	Flux Rate Limit Sets the limit for the maximum rate of change for flux producing (d-axis) current.	Default: 1.0 Min/Max: 0.0/195.3 Units: %/ms Scale: x 10		RW	16-bit Integer
426 A	Flux Satur Coef This represents the amount of flux current required to compensate for the flux saturation effect of the motor. Active only for FOC 2 motor control mode.	Default: 0.0 Min/Max: 0.0/51.3 Units: % Scale: x 10		RW	16-bit Integer
427 A	PM Mtr CEMF Comp Provides CEMF compensation for the torque producing (q-axis) current in the permanent magnet motor mode.	Default: 0 Min/Max: 0/100 Units: %		RW	16-bit Integer
428 A	IReg IGain Fctr Adjustment for current regulator integral frequency factor (gain).	Default: 1 Min/Max: 1/20		RW	16-bit Integer
429 A	Ids Integ Freq Sets the break frequency of the flux producing (d-axis) current regulator. This and Par 430 (Ids Reg P Gain) determine the integral gain for the d-axis current regulator. Set by the autotune procedure. Do not change this value.	Default: 10 Min/Max: 0/32767 Units: rad/s		RW	16-bit Integer
430 A	Ids Reg P Gain Sets the proportional gain of the flux producing (d-axis) current regulator. Set by the autotune procedure. Do not change this value.	Default: 1.0 Min/Max: 0.0/100.0 Scale: x 10		RW	16-bit Integer
431 A	Test Current Ref Sets the current reference used for Motor Control (MC) Test Mode.	Units: % Default: 50.0 Min/Max: 0.0/799.9 Scale: x 10		RW	16-bit Integer
432 A	Test Freq Ref Sets the frequency reference used for Motor Control (MC) Test Mode. Note: The default value was changed for firmware version 2.003.	Default: 1.0 Min/Max: +/-799.9 Units: % Scale: x 10		RW	16-bit Integer
433 A	Test Freq Rate Sets the rate of change of frequency reference used for Motor Control (MC) Test Mode.	Default: 5.0 Min/Max: 0.0/1000.0 Units: %/s Scale: x 10		RW	16-bit Integer
434 A	Mtr Vds Base Displays the motor flux producing (d-axis) voltage command when running at nameplate motor speed and load. This value is determined during the auto-tune procedure. Do not change this value. Used only in FOC modes.	Default: 0 Min/Max: -8192/0		RO	16-bit Integer
435 A	Mtr Vqs Base Displays the motor torque producing (q-axis) voltage command when running at nameplate motor speed and load. This value is determined during the auto-tune procedure. Do not change this value. Used only in FOC modes.	Default: 0 Min/Max: 0/8192		RO	16-bit Integer
437 A	Vqs Max Displays the maximum torque producing (q-axis) voltage allowed on the motor. Adaptation is disabled below this voltage. This value is determined during the auto-tune procedure. Do not change this value. Used only in FOC modes.	Default: 7971 Min/Max: 0/32767		RW	16-bit Integer
438 A	Vds Max Displays the maximum flux producing (d-axis) voltage allowed on the motor. Adaptation is disabled below this voltage. This value is determined during the auto-tune procedure. Do not change this value. Used only in FOC modes.	Default: 5793 Min/Max: 0/32767		RW	16-bit Integer
439 A	Vqs Min Displays the minimum torque producing (q-axis) voltage required for motor control adaptation. This value is determined during the auto-tune procedure. Do not change this value. Used only in FOC modes.	Default: 246 Min/Max: +/-32767		RW	16-bit Integer
440 A	Vds Min Displays the minimum flux producing (d-axis) voltage required for motor control adaptation. Adaptation is disabled below this voltage. This value is determined during the auto-tune procedure. Do not change this value.	Default: 246 Min/Max: +/-32767		RW	16-bit Integer
441 A	Vds Fdbk Filt Displays measured filtered motor flux producing (d-axis) voltage.	Default: 0 Min/Max: +/-32767		RO	16-bit Integer
442 A	Vqs Fdbk Filt Displays measured filtered motor torque producing (q-axis) voltage.	Default: 0 Min/Max: +/-32767		RO	16-bit Integer

No.	Name Description	Values	Linkable	Read-Write	Data Type
443 A	Flux Reg P Gain1 Sets the Proportional (P) gain for the flux regulator. Do not change this value.	Default: 150 Min/Max: 0/32767		RW	16-bit Integer
444 A	Flux Reg I Gain Sets the Integral (I) gain for the flux regulator. Do not change this value.	Default: 350 Min/Max: 0/32767		RW	16-bit Integer
445 A	Slip Gain Max Displays the maximum slip frequency allowed in the motor control. The scaling is in hertz x 256. This value is determined during the auto-tune procedure. Do not change this value.	Default: 300 Min/Max: 100/10000 Units: %		RW	16-bit Integer
446 A	Slip Gain Min Displays the minimum slip frequency allowed in the motor control. The scaling is in hertz x 256. This value is determined during the auto-tune procedure. Do not change this value.	Default: 50 Min/Max: 0/100 Units: %		RW	16-bit Integer
447 A	Slip Reg P Gain Sets the Proportional (P) gain for the slip regulator. Do not change this value.	Default: 35 Min/Max: 0/32767		RW	16-bit Integer
448 A	Slip Reg I Gain Sets the Integral (I) gain for the slip regulator. Do not change this value.	Default: 100 Min/Max: 0/32767		RW	16-bit Integer
449 A	SrLss FreqReg Ki Sets the integral gain of the Frequency Regulator, which estimates motor speed when sensorless feedback is selected. Do not change this value.	Default: 250 Min/Max: 0/32767		RW	16-bit Integer
450 A	SrLss FreqReg Kp Sets the proportional gain of the Frequency Regulator, which estimates motor speed when sensorless feedback is selected. Do not change this value.	Default: 350 Min/Max: 0/32767		RW	16-bit Integer
453 A	Iu Offset Sets the current offset correction for the phase U current. This value is set automatically when the drive is not running and Motor Control (MC) is not faulted. Do not change this value.	Default: 0 Min/Max: -/+32767		RW	16-bit Integer
454 A	Iw Offset Sets the current offset correction for the flux producing (d-axis) current regulator. This value is set automatically when the drive is not running and Motor Control (MC) is not faulted. Do not change this value.	Default: 0 Min/Max: -/+32767		RW	16-bit Integer
456	MC Build Number Displays the build number of the drive's Motor Control (MC) software.	Default: 0 Min/Max: 0/65535		RO	16-bit Integer
457	MC Firmware Rev Displays the major and minor revision levels of the drive's Motor Control (MC) software. Changed all values to three decimal places for firmware version 4.001.	Default: 0.000 Min/Max: 0.000/655.350 Scale: x 10		RO	16-bit Integer
459	IdsCompCoeff Mot Defines the flux producing current (Ids) command compensation coefficient used during motoring. When this parameter is set to 1024 the amount of compensation, which is proportional to torque producing current (Iqs) command, is 100% of the rated flux current at 1 P.U. of Iqs command when the torque producing voltage (Vqs) regulator is off and Par 510 [FVC Mode Config], bit 7 "Ids Comp En" = "1". No Ids command compensation will be applied when Par 510 [FVC Mode Config], bit 7 = "0". Notes: Refer to "Ids Compensation Coefficient Set Up" in the <i>PowerFlex 700S with Phase II Control Reference Manual</i> , publication PFLEX-RM003 , for more information. This parameter was added for firmware version 4.001.	Default: 0 Min/Max: +/-32767		RW	16-bit Integer
460	IdsCompCoeff Reg Defines the flux producing current (Ids) command compensation coefficient used during regeneration. When this parameter is set to 1024 the amount of compensation, which is proportional to torque producing current (Iqs) command, is 100% of the rated flux current at 1 P.U. of Iqs command when the Vqs regulator is off and Par 510 [FVC Mode Config], bit 7 "Ids Comp En" = "1". No Ids command compensation will be applied when Par 510 [FVC Mode Config], bit 7 = "0". Notes: Refer to "Ids Compensation Coefficient Set Up" in the <i>PowerFlex 700S with Phase II Control Reference Manual</i> , publication PFLEX-RM003 , for more information. This parameter was added for firmware version 4.001.	Default: 0 Min/Max: +/-32767		RW	16-bit Integer
461	SlipReg Off Iqs Defines the torque producing current (Iqs) reference level below which the slip regulator turns off, when the slip regulator turn off point is defined as ((Par 461 / 10) + 5) % of the rated Iqs reference. The slip regulator turn on point is defined as ((Par 461 / 10) + 10) % of the rated Iqs reference with the condition of the Vqs regulator is turned on. Note: This parameter was added for firmware version 4.001.	Default: 200 Min/Max: +/-32767		RW	16-bit Integer

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No.	Name Description	Values						Linkable	Read-Write	Data Type
466	MC TP1 Select									
A	Enter a value to select Motor Control (MC) data displayed in Par 467 [MC TP1 Value] and Par 468 [MC TP1 Bit]. Par 467 [MC TP1 Value] and Par 468 [MC TP1 Bit] are diagnostic tools you can use to view internal drive parameters. The default value is option 0 "MulqsRef2". Notes: Options 209 - 212 were added for firmware version 2.004. Options 213 - 254 were added for firmware version 3.001. Changed the following selections for firmware 4.001: 84,86, 87, 88, 89, 90, 91, 92, 95, 97, 98, 99, 103, 104, 105, 106, 108, 109, 110, 111, 163, 164, 165, 174, 175, 176, 177, 178, 179, 181, 182, 183. 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 236, 237, 253. Added option 163 "Flux Up Time" for firmware version 4.002. Options:									
	0 = MulqsRef2	43 = FluxRatio4	86 = SlipGainRate	129 = RWVvOut	172 = VqsComp	215 = CurrSnsChck1				
	1 = SlipRatio	44 = MuFlxRtioRef	87 = FiltSlipGain	130 = RWVwOut	173 = S4096 2.5V	216 = CurrSnsChck3				
	2 = Ws	45 = RcpFlxRatio1	88 = SlipScale	131 = RWuErr	174 = FreqAdjustFS	217 = CurrSnsChck5				
	3 = WrEst2	46 = MulfluxRef	89 = SlipSclShift	132 = RWvErr	175 = Reserved	218 = FrameSize				
	4 = We	47 = MultestRef	90 = VdsError	133 = RWwErr	176 = FreqIntMonFB	219 = Reserved				
	5 = VdsCmd	48 = MotVntc	91 = MotorRegen	134 = RWVuOut2	177 = MtrCntrlSel	220 = Reserved				
	6 = VqsCmd	49 = BaseSlip	92 = VqsSlwRtCLim	135 = RWVvOut2	178 = WeMon	221 = Reserved				
	7 = VuCmd1	50 = VbusFdbk2	93 = MotorVlts	136 = RWVwOut2	179 = BusUtilMtrVlt	222 = PowerMon				
	8 = VvCmd1	51 = VdsFdbk2	94 = BusUtil	137 = RWPosState	180 = lqsCmd2	223 = Rawlwfdbk2				
	9 = VwCmd1	52 = VqsFdbk2	95 = ldsCompMon	138 = RWNegState	181 = PosErrSum	224 = VqsFbFltrCom				
	10 = luFdbk	53 = VdsSpdVltFlt	96 = lqsLimit	139 = BusDropVolts	182 = NegErrSum	225 = VqsErrorComm				
	11 = lwFdbk	54 = WrEst1	97 = VqsSlwRtCnt	140 = RecoverVolts	183 = Reserved	226 = ReconsWFreq				
	12 = ldsFdbk	55 = MuTestFrqRef	98 = VqsErrMon	141 = DbDuty	184 = VltMvqsRef	227 = ReconAngleAc				
	13 = lqsFdbk	56 = TestFrqRef	99 = VqsNoErrCnt	142 = VdsFdbkFltr	185 = VRefVqsRefNm	228 = VsCmdAngleVf				
	14 = VdsFdbk	57 = FluxFltrN_1	100 = VqsldsCmd	143 = VqsFdbkFltr	186 = VRefRslqsNm	229 = ReconFreqInt				
	15 = VuvFdbk	58 = PrchgDlayCtr	101 = VqsMaxMotor	144 = VbusFdbkFltr	187 = VRefVqsSpdVN	230 = SpeedRef				
	16 = VvwFdbk	59 = PrchTimOutCr	102 = VqsMaxVbus	145 = VbusMemory	188 = EconoVoltGn	231 = CurFbkldsFbk				
	17 = VqsFdbk	60 = PrchPilotCtr	103 = FreqMinFB	146 = VpEnc0VelFbk	189 = F Output Fre	232 = CurFbkqlqsFbk				
	18 = ldsCmd	61 = TrqEnableCtr	104 = FreqMaxFB	147 = VpEnc1VelFbk	190 = TrqCreflqsCm	233 = VqsThetaEst				
	19 = lqsRatio	62 = MuTscan1	105 = ldsCmdFilter	148 = VPOpt0VelFbk	191 = Snk Wr	234 = VdsThetaEst				
	20 = MulqsRef	63 = ErStatFromCp	106 = DelFreqIntFB	149 = VPOpt1VelFbk	192 = SrLssWrAve	235 = RecnSwitch				
	21 = lqsCmd	64 = FlxCurRteOut	107 = VqsError	150 = BitSelect1	193 = CurFbkqlqsFbk	236 = VqsFbTransf				
	22 = We2	65 = ThetaE	108 = SlipBrkErrFB	151 = BitSelect2	194 = ACRIqsErr	237 = VdsFbTransf				
	23 = VuTd	66 = SinThetaE1	109 = FastBrkOnFB	152 = SrLssWeEst2	195 = CrefsqldsCmd	238 = BusLimitVBER				
	24 = VvTd	67 = SinThetaE2	110 = FreqOutput	153 = MulqsRef2	196 = CurFbkldsFbk	239 = ParDecelRtMC				
	25 = VwTd	68 = SinThetaE3	111 = AbsFreqOut	154 = EstThetaByMV	197 = VqsCmd700B	240 = ACRIqsRef				
	26 = VuCmd2	69 = SinThetaE4	112 = TestMark70	155 = ETVdsFbkA	198 = VdsCmc700B	241 = ACRIqsCmd				
	27 = VvCmd2	70 = SinThetaE5	113 = TestMark71	156 = ETVqsFbkA	199 = VqsRefNom	242 = lqsCmdFltr				
	28 = VwCmd2	71 = SinThetaE6	114 = TestMark72	157 = ETVdsFbkS	200 = VqsRslqsNom	243 = lSpdCmd				
	29 = Kpwm	72 = ThetaEcor	115 = TestMark73	158 = ETVqsFbkS	201 = VqsSpdVltNom	244 = AccDecRate				
	30 = Vds_cemf	73 = SinThtaEcor1	116 = TestMark74	159 = ETAtanVqVd	202 = VltMtvqsRef	245 = RecThetaEx4				
	31 = Vqs_cemf	74 = SinThtaEcor2	117 = TestMark75	160 = ETByMtrVDfr	203 = ldsFbkDeriv	246 = RecVqsFdbk				
	32 = VdsCmd2	75 = SinThtaEcor3	118 = TestMark76	161 = VelRef2	204 = VdsRefNom	247 = RecVdsFdbk				
	33 = VqsCmd2	76 = SinThtaEcor4	119 = TestMark76	162 = VelOutput	205 = VdsRsldsNom	248 = VdeFilter				
	34 = ldsIntegral	77 = MulRef2B	120 = TestMark78	163 = Flux Up Time	206 = VdsSpdVltNom	249 = VqsFdbkTrans				
	35 = lqsIntegral	78 = SpdFdbk	121 = TestMark79	164 = FrameSize	207 = VltMtvdsRef	250 = VdsFdbkTrans				
	36 = DcBus	79 = SpdIntegral	122 = TestMark7A	165 = VdTargetMon	208 = ldsFbkDeriv	251 = Excitation				
	37 = AGnd	80 = SpdPrportnal	123 = TestMark7B	166 = ThetaELiner	209 = VuvFbkOffset	252 = ExciteStatus				
	38 = Wr2	81 = SpdPI	124 = TestMark7C	167 = PprCntDfcOt	210 = VvwFbkOffset	253 = CommldsCount				
	39 = FluxRatio1	82 = SpdRef	125 = TestMark7D	168 = PprCntDfcTh	211 = luFbkOffset	254 = ThetaESample				
	40 = VbusFdbk	83 = SlipGainEst	126 = TestMark7E	169 = LinearPprCnt	212 = lwFbkOffset	255 = Reserved				
	41 = FluxRatio2	84 = LatchSlipGin	127 = TestMark7F	170 = ActiveFdbk	213 = KSlipNP					
	42 = FluxRatio3	85 = Ws2	128 = RWVuOut	171 = VdsComp	214 = lUnbalanceSt					

No.	Name Description	Values	Linkable	Read-Write	Data Type
467 	MC TP1 Value Displays the data selected by Par 466 [MC TP1 Select]. This display should only be used if the selected value is integer data. This parameter is a diagnostic tool you can use to view internal drive parameters.	Default: 0 Min/Max: -/+2147483648		RO	32-bit Integer
468 	MC TP1 Bit Displays the data selected by Par 466 [MC TP1 Select]. This display should only be used if the selected value is bit-enumerated data. Par 468 [MC TP1 Bit] is a diagnostic tool you can use to view internal drive parameters.	Default: 00000000000000000000000000000000 Min: 00000000000000000000000000000000 Max: 11111111111111111111111111111111		RO	32-bit Boolean
469 	FVC CEMF Comp Displays the current regulator feedforward compensation. Do not change this value.	Default: 0 Min/Max: 0/100 Units: %		RW	16-bit Integer
470 	Flux Reg P Gain2 Displays the additional proportional gain used at the start of Bus voltage limited field weakening. Do not change this value.	Default: 1000 Min/Max: 0/32767		RW	16-bit Integer
471 	Estimated Torque Displays the calculated motor shaft torque. Notes: This parameter was added for firmware version 2.003. The Units and Scale information were added for firmware version 4.002.	Default: 0.0 Min/Max: +/-8.0 P.U. Units: P.U. Scale: 1.0 = 100% of the Motor Torque		RO	Real
472 	PreCharge Delay Adjusts the delay between the time all other precharge conditions have been met and the time the drive leaves the precharge state. Can be used to control the sequence of precharge completion in a drive system. The maximum value of this parameter is calculated as follows: Par 472 [PreCharge Delay] = Par 410 [PreChrg TimeOut] - 1.0 second.	Default: 2.0 Min/Max: 0.0/Calculated Units: s		RW	16-bit Integer

No.	Name Description	Values						Linkable	Read-Write	Data Type
473	MC TP2 Select									
A	Enter a value to select Motor Control (MC) data displayed in Par 474 [MC TP2 Value] and Par 468 [MC TP1 Bit]. Par 474 [MC TP2 Value], and Par 468 [MC TP1 Bit] are diagnostic tools you can use to view internal drive parameters. This parameter should not be changed by the user. The default value is option 0 "MulqsRef2". Note: This parameter was added for firmware version 2.003. Added option 163 "Flux Up Time" for firmware version 4.002. Options:									
	0 = MulqsRef2	43 = FluxRatio4	86 = SlipGainRate	129 = RWVvOut	172 = VqsComp	215 = CurrSnsChck1				
	1 = SlipRatio	44 = MuFlxRtioRef	87 = FiltSlipGain	130 = RWVwOut	173 = S4096 2.5V	216 = CurrSnsChck3				
	2 = Ws	45 = RcpFlxRatio1	88 = SlipScale	131 = RWuErr	174 = FreqAdjustFS	217 = CurrSnsChck5				
	3 = WrEst2	46 = MulfluxRef	89 = SlipScIShift	132 = RWvErr	175 = Reserved	218 = FrameSize				
	4 = We	47 = MultestRef	90 = VdsError	133 = RWwErr	176 = FreqIntMonFB	219 = Reserved				
	5 = VdsCmd	48 = MotVntc	91 = MotorRegen	134 = RWVuOut2	177 = MtrCntrlSel	220 = Reserved				
	6 = VqsCmd	49 = BaseSlip	92 = VqsSlwRtCLim	135 = RWVvOut2	178 = WeMon	221 = Reserved				
	7 = VuCmd1	50 = VbusFdbk2	93 = MotorVlts	136 = RWVwOut2	179 = Reserved	222 = PowerMon				
	8 = VvCmd1	51 = VdsFdbk2	94 = BusUtil	137 = RWPosState	180 = IqsCmd2	223 = RawlwFdbk2				
	9 = VwCmd1	52 = VqsFdbk2	95 = IdsCompMon	138 = RWNegState	181 = Reserved	224 = VqsFbFitrCom				
	10 = luFdbk	53 = VdsSpdVltFlt	96 = IqsLimit	139 = BusDropVolts	182 = Reserved	225 = VqsErrorComm				
	11 = lwFdbk	54 = WrEst1	97 = VqsSlwRtCnt	140 = RecoverVolts	183 = Reserved	226 = ReconsWvFreq				
	12 = ldsFdbk	55 = MuTestFrqRef	98 = VqsErrMon	141 = DbDuty	184 = VLmtVqsRef	227 = ReconAngleAc				
	13 = IqsFdbk	56 = TestFrqRef	99 = VqsNoErrCnt	142 = VdsFdbkFitr	185 = VRefVqsRefNm	228 = VsCmdAngleVf				
	14 = VdsFdbk	57 = FluxFitrN_1	100 = VqsldsCmd	143 = VqsFdbkFitr	186 = VRefRslqNm	229 = ReconFreqInt				
	15 = VuvFdbk	58 = PrchgDlayCtr	101 = VqsMaxMotor	144 = VbusFdbkFitr	187 = VRefVqsSpdVN	230 = SpeedRef				
	16 = VvwFdbk	59 = PrchTimOutCr	102 = VqsMaxVbus	145 = VbusMemory	188 = EconoVoltGn	231 = CurFbkldsFbk				
	17 = VqsFdbk	60 = PrchPilotCtr	103 = FreqMinFB	146 = VpEnc0VelFbk	189 = F Output Fre	232 = CurFbkqlsFbk				
	18 = ldsCmd	61 = TrqEnableCtr	104 = FreqMaxFB	147 = VpEnc1VelFbk	190 = TrqCreflqsCm	233 = VqsThetaEst				
	19 = IqsRatio	62 = MuTscan1	105 = IdsCmdFilter	148 = VPOpt0VelFbk	191 = Snk Wr	234 = VdsThetaEst				
	20 = MulqsRef	63 = ErStatFromCp	106 = DelFreqIntFB	149 = VPOpt1VelFbk	192 = SrLssWrAve	235 = RecnSwitch				
	21 = IqsCmd	64 = FlxCurRteOut	107 = VqsError	150 = BitSelect1	193 = CurFbkqlsFbk	236 = VqsFbTransf				
	22 = We2	65 = ThetaE	108 = SlipBrkErrFB	151 = BitSelect2	194 = ACRIqsErr	237 = VdsFbTransf				
	23 = VuTd	66 = SinThetaE1	109 = FastBrkOnFB	152 = SrLssWeEst2	195 = CrefsqldsCmd	238 = BusLimitVBer				
	24 = VvTd	67 = SinThetaE2	110 = FreqOutput	153 = MulqsRef2	196 = CurFbkldsFbk	239 = ParDecelRtMC				
	25 = VwTd	68 = SinThetaE3	111 = AbsFreqOut	154 = EstThetaByMV	197 = VqsCmd700B	240 = ACRIqsRef				
	26 = VuCmd2	69 = SinThetaE4	112 = TestMark70	155 = ETVdsFbkA	198 = VdsCmc700B	241 = ACRIqsCmd				
	27 = VvCmd2	70 = SinThetaE5	113 = TestMark71	156 = ETVqsFbkA	199 = VqsRefNom	242 = IqsCmdFitr				
	28 = VwCmd2	71 = SinThetaE6	114 = TestMark72	157 = ETVdsFbkS	200 = VqsRslqNom	243 = ISpdCmd				
	29 = Kpwm	72 = ThetaEcor	115 = TestMark73	158 = ETVqsFbkS	201 = VqsSpdVltNom	244 = AccDecRate				
	30 = Vds_cemf	73 = SinThtaEcor1	116 = TestMark74	159 = ETAtanVqVd	202 = VltLmtVqsRef	245 = RecThetaEx4				
	31 = Vqs_cemf	74 = SinThtaEcor2	117 = TestMark75	160 = ETByMtrVDfr	203 = ldsFbkDeriv	246 = RecVqsFdbk				
	32 = VdsCmd2	75 = SinThtaEcor3	118 = TestMark76	161 = VelRef2	204 = VdsRefNom	247 = RecVdsFdbk				
	33 = VqsCmd2	76 = SinThtaEcor4	119 = TestMark76	162 = VelOutput	205 = VdsRslsNom	248 = VdeFilter				
	34 = ldsIntegral	77 = MulRef2B	120 = TestMark78	163 = Flux Up Time	206 = VdsSpdVltNom	249 = VqsFdbkTrans				
	35 = IqsIntegral	78 = SpdFdbk	121 = TestMark79	164 = FrameSize	207 = VltLmtVdsRef	250 = VdsFdbkTrans				
	36 = DcBus	79 = SpdIntegral	122 = TestMark7A	165 = VdTargetMon	208 = ldsFbkDeriv	251 = Excitation				
	37 = AGnd	80 = SpdPrportnal	123 = TestMark7B	166 = ThetaELiner	209 = VuvFbkOffset	252 = ExciteStatus				
	38 = Wr2	81 = SpdPI	124 = TestMark7C	167 = PprCntDfcOt	210 = VvwFbkOffset	253 = CommldsCount				
	39 = FluxRatio1	82 = SpdRef	125 = TestMark7D	168 = PprCntDfcTh	211 = luFbkOffset	254 = ThetaESample				
	40 = VbusFdbk	83 = SlipGainEst	126 = TestMark7E	169 = LinearPprCnt	212 = lwFbkOffset	255 = Reserved				
	41 = FluxRatio2	84 = LatchSlipGin	127 = TestMark7F	170 = ActiveFdbk	213 = KSlipNP					
	42 = FluxRatio3	85 = Ws2	128 = RWVuOut	171 = VdsComp	214 = lUnbalanceSt					

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																																																				
474 A	MC TP2 Value Displays the data selected by Par 473 [MC TP2 Select]. This display should only be used if the selected value is integer data. This parameter is a diagnostic tool you can use to view internal drive parameters. This parameter should not be changed by the user. Note: This parameter was added for firmware version 2.003.	Default: 0.0 Min/Max: +/- 2147483648		RO	32-bit Integer																																																																																				
475 A	MC FaultTPSelect Enter or write a value to select the Motor Control (MC) Fault Data displayed in Par 476 [MC FaultTP Value]. This parameter should not be changed by the user. Notes: This parameter was added for firmware version 2.003. The value for option 67 was changed from "HH GateShort" to "MCStatus1" for firmware version 2.004. Values 68 - 76 were added for firmware version 3.001. Options: <table border="0"> <tr> <td>0 = IqsRef2</td><td>14 = DcBus</td><td>29 = DbDuty</td><td>43 = RotorFluxEst</td><td>57 = VbusDrop</td><td>71 = HH OverLoad</td></tr> <tr> <td>1 = Ws</td><td>15 = VbusFdbk</td><td>30 = VelFdbkEnc0</td><td>44 = Ws2</td><td>58 = VdsMax</td><td>72 = HH Precharge</td></tr> <tr> <td>2 = We</td><td>16 = VbusFdbkFltr</td><td>31 = VelFdbkEnc1</td><td>45 = BusDropVolts</td><td>59 = VbusLow</td><td>73 = HH Fan Alarm</td></tr> <tr> <td>3 = We2</td><td>17 = VbusMemory</td><td>32 = VdsCmd2</td><td>46 = RecoverVolts</td><td>60 = VbusRising</td><td>74 = HH BusComm</td></tr> <tr> <td>4 = VdsCmd</td><td>18 = Kpwm</td><td>33 = VelFdbkOpt1</td><td>47 = TestDtoA0</td><td>61 = PreChrgDone</td><td>75 = HH HW Incomp</td></tr> <tr> <td>5 = VqsCmd</td><td>19 = ThetaE</td><td>34 = Reserved</td><td>48 = TestDtoA1</td><td>62 = FieldWeak</td><td>76 = HH GateShort</td></tr> <tr> <td>6 = VdsFdbk</td><td>20 = FldWeakActiv</td><td>35 = Reserved</td><td>49 = TestDtoA2</td><td>63 = Reserved</td><td></td></tr> <tr> <td>7 = VqsFdbk</td><td>21 = MtrFlxPU</td><td>36 = Reserved</td><td>50 = TestDtoA3</td><td>64 = DynamBrakeOn</td><td></td></tr> <tr> <td>8 = IuFdbk</td><td>23 = SlipGainFltr</td><td>37 = Reserved</td><td>51 = RideThruActv</td><td>65 = Reserved</td><td></td></tr> <tr> <td>9 = IwFdbk</td><td>24 = SlipVdsCmd</td><td>38 = TorqueEst</td><td>52 = PreChrgReqVp</td><td>66 = MCStatusMon</td><td></td></tr> <tr> <td>10 = IdsFdbk</td><td>25 = MotorVolts</td><td>39 = TorqueEstFlt</td><td>53 = Reserved</td><td>67 = MCStatus1</td><td></td></tr> <tr> <td>11 = IqsFdbk</td><td>26 = BusUtil</td><td>40 = Reserved</td><td>54 = Reserved</td><td>68 = HH OverCurr</td><td></td></tr> <tr> <td>12 = IdsCmd</td><td>27 = IqsLimit</td><td>41 = PowerCalc</td><td>55 = Reserved</td><td>69 = HH BusOvrVlt</td><td></td></tr> <tr> <td>13 = IqsCmd</td><td>28 = VqsldsCmd</td><td>42 = TorqueCmd</td><td>56 = TorqTrimActv</td><td>70 = HH Tr Desat</td><td></td></tr> </table>	0 = IqsRef2	14 = DcBus	29 = DbDuty	43 = RotorFluxEst	57 = VbusDrop	71 = HH OverLoad	1 = Ws	15 = VbusFdbk	30 = VelFdbkEnc0	44 = Ws2	58 = VdsMax	72 = HH Precharge	2 = We	16 = VbusFdbkFltr	31 = VelFdbkEnc1	45 = BusDropVolts	59 = VbusLow	73 = HH Fan Alarm	3 = We2	17 = VbusMemory	32 = VdsCmd2	46 = RecoverVolts	60 = VbusRising	74 = HH BusComm	4 = VdsCmd	18 = Kpwm	33 = VelFdbkOpt1	47 = TestDtoA0	61 = PreChrgDone	75 = HH HW Incomp	5 = VqsCmd	19 = ThetaE	34 = Reserved	48 = TestDtoA1	62 = FieldWeak	76 = HH GateShort	6 = VdsFdbk	20 = FldWeakActiv	35 = Reserved	49 = TestDtoA2	63 = Reserved		7 = VqsFdbk	21 = MtrFlxPU	36 = Reserved	50 = TestDtoA3	64 = DynamBrakeOn		8 = IuFdbk	23 = SlipGainFltr	37 = Reserved	51 = RideThruActv	65 = Reserved		9 = IwFdbk	24 = SlipVdsCmd	38 = TorqueEst	52 = PreChrgReqVp	66 = MCStatusMon		10 = IdsFdbk	25 = MotorVolts	39 = TorqueEstFlt	53 = Reserved	67 = MCStatus1		11 = IqsFdbk	26 = BusUtil	40 = Reserved	54 = Reserved	68 = HH OverCurr		12 = IdsCmd	27 = IqsLimit	41 = PowerCalc	55 = Reserved	69 = HH BusOvrVlt		13 = IqsCmd	28 = VqsldsCmd	42 = TorqueCmd	56 = TorqTrimActv	70 = HH Tr Desat		Default: 0.0 Min/Max: +/- 2147483648		RO	32-bit Integer
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476 A	MC FaultTP Value Displays the data selected by Par 475 [MC FaultTPSelect]. This parameter should not be changed by the user. Note: This parameter was added for firmware version 2.003.	Default: 0.0 Min/Max: +/- 2147483648		RO	32-bit Integer																																																																																				
477 A	Est Theta Delay Active only in Permanent Magnet motor mode (when Par 485 [Motor Ctrl Mode] equals 2 – "PMag Motor"). Provides a delay for the function that compares the estimated rotor position and the data from the position sensor.	Units: ms Default: 10 Min/Max: 2/1024		RW	16-bit Integer																																																																																				
478 A	VPL Mem Password VPL memory password. Note: This parameter was added for firmware version 2.003.	Default: 0 Min/Max: +/-2147483648		RW	32-bit Integer																																																																																				
479 A	VPL Mem Address VPL memory address. Note: This parameter was added for firmware version 2.003.	Default: 0 Min/Max: 0 - 4294967295		RW	32-bit Integer																																																																																				
480 A	VPL Mem Data Int VPL memory data integer. Note: This parameter was added for firmware version 2.003.	Default: 32 Min/Max: +/-2147483648		RW	32-bit Integer																																																																																				
481 A	VPL Mem Data Flt VPL memory data filter. Note: This parameter was added for firmware version 2.003.	Default: 1.25 Min/Max:		RW	Real																																																																																				
482 A	VPL Mem Data Bit VPL memory data bit. Note: This parameter was added for firmware version 2.003.	Default: 1.25 Min/Max:		RW	32-bit Integer																																																																																				
483 A	VPL Mem Link Int VPL memory link integer. Note: This parameter was added for firmware version 2.003.	Default: +/-2147483648 Min/Max:		RO	32-bit Integer																																																																																				
484 A	VPL Mem Link Flt VPL memory link filter. Note: This parameter was added for firmware version 2.003.	Default: 1.25000 Min/Max:		RO	Real																																																																																				

No.	Name Description	Values	Linkable	Read-Write	Data Type
485	Motor Ctrl Mode Enter a value to select the operating mode for the Motor Control (MC). - Value 0 - Field Oriented Control (FOC) is induction motor control with voltage adaptation. - Value 1 - Field Oriented Control 2 (FOC 2) is induction motor control with temperature adaptation. (This option is used only for motors manufactured by Reliance Electric - Japan.) - Value 2 - Permanent Magnet Motor Control (Pmag Motor) is permanent magnet motor operation. - Value 3 - V/Hz is volts per hertz motor control. - Value 4 - Test is the test mode.	Default: 0 = "FOC" Options: 0 = "FOC" 3 = "V/Hz" 1 = "FOC 2" 4 = "Test" 2 = "Pmag Motor"			
486	Rated Slip Freq Displays the control slip frequency, determined from Par 3 [Motor NP Hertz] and Par 4 [Motor NP RPM]. Measured and updated by the autotune procedure. Do not change this value. Note: Changed the attributes to allow changing this parameter while the drive is running for firmware version 3.001.	Default: 0.470 Min/Max: 0.000/32.000 Units: Hz Scale: x 1000		RW	16-bit Integer
487	Motor NTC Coef Defines a coefficient used to calculate the rotor temperature from the measured stator temperature. Used only in Field Oriented Control - 2 (FOC2) mode. See Par 485 [Motor Ctrl Mode].	Default: 100 Min/Max: 50/200 Units: %		RW	16-bit Integer
488	Flux Current Specifies the magnetizing current that produces rated flux in the motor in a per unit (percent representation). Measured by the auto-tune procedure. Do not change this value.	Default: 30.00 Min/Max: 0.00/75.00 Units: % Scale: x 100		RW	16-bit Integer
489	Flx CurFdbk (Id) Displays flux producing (d-axis) current feedback.	Default: 0.0000 Min/Max: -/+8.0000 P.U. Units: P.U.		RO	Real
490	StatorInductance Displays the sum of the stator and cable inductances of the motor in per unit (percent representation), as determined by the auto-tune procedure. Scaled to percent of rated motor impedance. Do not change this value. Note: the default value was changed from 8192 to 4096 for firmware version 3.001.	Default: 100.0 Min/Max: 0.00/799.99 Units: % Scale: 100 = 4096		RW	16-bit Integer
491	StatorResistance Displays the sum of the stator and cable resistances of the motor in per unit (percent representation), as determined by the auto-tune procedure. Scaled to percent of rated motor impedance. Do not change this value.	Default: 1.00 Min/Max: 0.00/100.00 Units: % Scale: 100 = 8192		RW	16-bit Integer
492	Leak Inductance Displays the sum of the motor stator and rotor leak inductance, and motor cable inductances in per unit (percent representation), as determined by the auto-tune procedure. Scaled to percent of rated motor impedance. Do not change this value.	Default: 20.00 Min/Max: 0.00/100.00 Units: % Scale: 100 = 8192		RW	16-bit Integer
493	Leak Indc Satur1 Displays the leakage inductance correction for the first overload level as determined by the autotune procedure.	Default: 100.00 Min/Max: 25.00/100.00 Units: %		RW	16-bit Integer
494	Leak Indc Satur2 Displays the leakage inductance correction for the first overload level as determined by the auto-tune procedure.	Default: 100.00 Min/Max: 25.00/100.00 Units: %		RW	16-bit Integer
495	Iqs Command Displays the torque producing (q-axis) current command.	Default: 0.0 Min/Max: -/+800.0 Units: % Scale: x 10		RO	16-bit Integer
496	Ids Command Displays the flux producing (d-axis) current command.	Default: 0.0 Min/Max: -/+800.0 Units: % Scale: x 10		RO	16-bit Integer
497	Vqs Command Displays the command for initiation of voltage on the torque producing axis (q-axis).	Default: 0 Min/Max: -/+200 Units: % Scale: 100 = 8192		RO	16-bit Integer

No.	Name Description	Values	Linkable	Read-Write	Data Type
498 	Vds Command Displays the command for initiation of voltage on the flux producing axis (d-axis).	Default: 0 Min/Max: -/+200 Units: % Scale: 100 = 8192		RO	16-bit Integer
499 	Trq CurFdbk (Iq) Displays torque producing (q-axis) current feedback.	Default: 0.0000 Min/Max: -/+8.0000 Units: P.U.		RO	Real
500 	Bus Util Limit Sets the maximum allowed bus voltage utilization for the Motor Control. Do not change this value. Higher values may result in control instability or over-current faults.	Default: 90.0 Min/Max: 0.0/100.0 Units: % Scale: 100 = 8192		RW	16-bit Integer
501  	Torque En Dly Sets the delay between the time the drive is enabled and the time the Motor Control applies torque.	Default: 100 Min/Max: 0/32767 Units: ms Scale: 100 = 8192		RW	16-bit Integer
502  	Rotor Resistance Displays rotor resistance, as determined by the auto-tune procedure. Scaled to percent of rated motor impedance. Do not change this value.	Default: 1.00 Min/Max: 0.00/100.00 Units: % Scale: 100 = 8192		RW	16-bit Integer
503  	Current Reg BW Sets the bandwidth for the current regulator. Par 402 [PWM Frequency] limits the maximum value. Reducing the value reduces current regulator over-shoot.	Default: 600 Min/Max: 100/30000 Units: rad/s		RW	16-bit Integer
504  	PM AbsEncd Offst Determined by auto-tune procedure.	Default: 0 Min/Max: 0/65535		RW	16-bit Integer
505  	PM TestWait Time Defines the time interval used for the automated measurement of Par 504 [PM AbsEncd Offst] for a Permanent Magnet (PM) motor.	Default: 2000 Min/Max: 500/5000 Units: ms		RW	16-bit Integer
506  	PM Test Idc Ramp Defines the ramp rate of the Flux Producing (d-axis) current reference that is used for the automated measurement of Par 504 [PM AbsEncd Offst] for a Permanent Magnet (PM) motor.	Default: 0.1 Min/Max: 0.0/195.3 Units: %/ms Scale: x 10		RW	16-bit Integer
507  	PM Test FreqRamp Defines the ramp rate of the frequency reference that is used for the automated measurement of Par 504 [PM AbsEncd Offst] for a Permanent Magnet (PM) motor.	Default: 0.1 Min/Max: 0.0/195.3 Units: %/ms Scale: x 10		RW	16-bit Integer
508  	PM Test Freq Ref Defines the frequency reference that is used for the automated measurement of Par 504 [PM AbsEncd Offst] for a Permanent Magnet (PM) motor.	Default: 10.0 Min/Max: -/+799.9 Units: % Scale: x 10		RW	16-bit Integer
509  	PM Test I Ref Defines the amplitude of the Flux Producing (d-axis) current reference that is used for the automated measurement of Par 504 [PM AbsEncd Offst] for a Permanent Magnet (PM) motor.	Default: 30.0 Min/Max: 0.0/799.9 Units: % Scale: x 10		RW	16-bit Integer

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																																																																			
510	FVC Mode Config Configures Field Oriented Control (FOC) operation. - Bit 4 “SlipTuneDone” when set, the value in Par 486 [Rated Slip Freq] is used as the slip gain before the slip regulator becomes active, after power is cycled, or when the drive is reset by the system. When the Slip Tune is completed, this bit will be automatically be set and Par 486 will be updated. - Bit 7 “Ids Comp En” setting this bit runs the Ids test, to establish the initial flux current level for the motor, and the inertia test (even if already run). - Bit 12 “SlipRsCompEn” when set, the stator resistance will be compensated based on the output of the slip regulator. - Bit16 “ManuCurOffset” when set, Par 453 [Iu Offset] is used as the phase U current feedback offset value and Par 454 [Iw Offset] is used as the phase W current feedback offset value. When this bit is not set (default) the phase U and W current feedback offset values are automatically updated when the drive is in a stop condition except during the first 10 seconds of the stop condition. - Bit17 “ManuVltOffset” when this bit is set, Par 549 [Vuv Fdbk Offset] is used as the UV voltage feedback offset value and Par 550 [Vvw Fdbk Offset] is used as the VW voltage feedback offset value. - Bit 23 “SyncTrans En” when set (default), the synchronous transfer algorithm using voltage feedback data is active. Notes: Bit changes were made for firmware version 2.003. Bits 10 and 11 were added for firmware version 3.001. Changed bit 3 from “Reserved” to “FastFluxDsbl” for firmware version 3.003. Added bits 4, 7, 12, 16, 17 and 23 for firmware version 4.001.																																																																																																							
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Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	SyncTrans En	SlLss RdThru	VltMinorLpEn	SoftAdptGain	Reserved	Reserved	ManuVltOffset	ManuCurOffset	LwSpdRflctWv	Slip Reg En	SlipGain Est	SlipRsCompEn	SlipPloadEn	SlipSlewRtEn	RefWaveComp	BusGain Comp	Ids Comp En	Flux Reg Use	Flux Reg En	SlipTuneDone	FastFluxDsbl	Reserved	Reserved	Reserved																																																																								
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511	FVC2 Mode Config Configures Field Oriented Control - 2 (FOC2) operation. Notes: Bit changes were made for firmware version 2.003. This parameter was changed to non-linkable for firmware version 3.001.																																																																																																							
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Options	LrnSnsr Dir	LrnSnsr Use	Reserved	FlxRatRf Use	NTC Active	Reserved	Reserved	CEMF We Use	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	BusGain Comp	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved																																																																									
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512	PMag Mode Config Configures Permanent Magnet (PM) operation. - Bit 0 “PM Cogging” when set, enables torque ripple compensation. - Bit 9 “RefWaveComp” when set, Reflected Wave Correction is enabled. Notes: Bit changes were made for firmware version 2.003. This parameter was changed to non-linkable for firmware version 3.001. Added bit 9 for firmware version 4.001. Bit 0 “PM Cogging” was added for firmware version 5.002.																																																																																																							
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No.	Name Description	Values	Linkable	Read-Write	Data Type																																																																																																			
513	V/Hz Mode Config Configures V/Hz control mode operation. Notes: This parameter was added for firmware version 2.003. Changed bit 3 from "Reserved" to "FastFluxDsbl" for firmware version 3.003. Bits 8, 9, and 21 were changed to be not changeable while the drive is running.																																																																																																							
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514	Test Mode Config Configures the Motor Control (MC) test mode. Note: This parameter was changed to non-linkable for firmware version 3.001.																																																																																																							
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515	FVC Tune Config Configures FOC tuning mode. - Bit 1 "FluxCurrTune" when set, the value in Par 488 [Flux Current] is used as the flux current at the beginning of the magnetic inductance test. When this bit is not set (default), an automatically calculated (preset) flux current is used as the flux current at the beginning of the magnetic inductance test. - Bit 2 "NoTimeLimit" when set, the time limit fault detection during the magnetizing inductance test is disabled. Note: Bits 1 and 2 were added for firmware version 4.001.																																																																																																							
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516	FVC2 Tune Config Configures FOC 2 tuning mode.	ATTENTION: Do not modify this parameter. Motor/Drive instabilities and damage may result.																																																																																																							
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517	PMag Tune Config Configures Permanent Magnet Motor tuning mode.	ATTENTION: Do not modify this parameter. Motor/Drive instabilities and damage may result.																																																																																																							
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518	MC Diag Status Indicates the status of the MC diagnostic tests.	Options <table><tr><td></td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>PwrDiagFltPt</td><td>PM EncOffset</td><td>Rot Dir Chk</td><td>CommCntEncls</td><td>Comm Count</td><td>CommParamCal</td><td>CommLmEncls</td><td>Comm Lm Meas</td><td>Comm Signals</td><td>Comm Rs Meas</td><td>PDg TrWP-VNOn</td><td>PDg TrWP-VNOn</td><td>PDg TrVP-VNOn</td><td>PDg VP-VNOn</td><td>PDg UP-VNOn</td><td>PDg TrUP-VNOn</td><td>PDg TrUNWNOn</td><td>PDg TrUPWPOn</td><td>Pdiag TrWNOn</td><td>Pdiag TrVNOn</td><td>Pdiag TrUNOn</td><td>Pdiag TrWPOn</td><td>Pdiag TrVPOn</td><td>Pdiag TrUPOn</td><td>Pdg VbusSens</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True		Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	PwrDiagFltPt	PM EncOffset	Rot Dir Chk	CommCntEncls	Comm Count	CommParamCal	CommLmEncls	Comm Lm Meas	Comm Signals	Comm Rs Meas	PDg TrWP-VNOn	PDg TrWP-VNOn	PDg TrVP-VNOn	PDg VP-VNOn	PDg UP-VNOn	PDg TrUP-VNOn	PDg TrUNWNOn	PDg TrUPWPOn	Pdiag TrWNOn	Pdiag TrVNOn	Pdiag TrUNOn	Pdiag TrWPOn	Pdiag TrVPOn	Pdiag TrUPOn	Pdg VbusSens	Default	x	x	x	x	x	x	x	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0					
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519	MC Diag Done Indicates which MC diagnostic tests are completed.	Options <table><tr><td></td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>PwrDiagFltPt</td><td>PM EncOffset</td><td>Rot Dir Chk</td><td>CommCntEncls</td><td>Comm Count</td><td>CommParamCal</td><td>CommLmEncls</td><td>Comm Lm Meas</td><td>Comm Signals</td><td>Comm Rs Meas</td><td>PDg TrWP-VNOn</td><td>PDg TrWP-VNOn</td><td>PDg TrVP-VNOn</td><td>PDg VP-VNOn</td><td>PDg UP-VNOn</td><td>PDg TrUP-VNOn</td><td>PDg TrUNWNOn</td><td>PDg TrUPWPOn</td><td>Pdiag TrWNOn</td><td>Pdiag TrVNOn</td><td>Pdiag TrUNOn</td><td>Pdiag TrWPOn</td><td>Pdiag TrVPOn</td><td>Pdiag TrUPOn</td><td>Pdg VbusSens</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True		Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	PwrDiagFltPt	PM EncOffset	Rot Dir Chk	CommCntEncls	Comm Count	CommParamCal	CommLmEncls	Comm Lm Meas	Comm Signals	Comm Rs Meas	PDg TrWP-VNOn	PDg TrWP-VNOn	PDg TrVP-VNOn	PDg VP-VNOn	PDg UP-VNOn	PDg TrUP-VNOn	PDg TrUNWNOn	PDg TrUPWPOn	Pdiag TrWNOn	Pdiag TrVNOn	Pdiag TrUNOn	Pdiag TrWPOn	Pdiag TrVPOn	Pdiag TrUPOn	Pdg VbusSens	Default	x	x	x	x	x	x	x	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0				
	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	PwrDiagFltPt	PM EncOffset	Rot Dir Chk	CommCntEncls	Comm Count	CommParamCal	CommLmEncls	Comm Lm Meas	Comm Signals	Comm Rs Meas	PDg TrWP-VNOn	PDg TrWP-VNOn	PDg TrVP-VNOn	PDg VP-VNOn	PDg UP-VNOn	PDg TrUP-VNOn	PDg TrUNWNOn	PDg TrUPWPOn	Pdiag TrWNOn	Pdiag TrVNOn	Pdiag TrUNOn	Pdiag TrWPOn	Pdiag TrVPOn	Pdiag TrUPOn	Pdg VbusSens																																																																									
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520	PM Q Inductance Indicates the percent-per unit inductance of the motor stator in the torque producing (q-axis).	Default: 20.00 Min/Max: 0.00/399.99 Units: % Scale: 100 = 8192		RW	16-bit Integer																																																																																																				

No.	Name Description	Values	Linkable	Read-Write	Data Type
521  	PM D Inductance Indicates the percent-per unit inductance of the motor stator in the flux producing (d-axis).	Default: 20.00 Min/Max: 0.00/399.99 Units: % Scale: 100 = 8192		RW	16-bit Integer
522  	PM Stator Resist Indicates the percent-per unit resistance of the motor stator.	Default: 1.50 Min/Max: 0.00/100.00 Units: % Scale: 100 = 8192		RW	16-bit Integer
523  	PM Mtr CEMF Coef Indicates the coefficient for Counter Electro Motive Force (CEMF) voltage, normalized to base motor speed.	Default: 89.99 Min/Max: 0.00/399.99 Units: % Scale: 100 = 8192		RW	16-bit Integer
525 	Slip Ratio Used by the Field Oriented Control - 2 (FOC2) mode. Indicates the present operating slip frequency at 100% Torque Producing Current (Iqs) scaled to hertz x 100.	Default: 0.00 Min/Max: 0.00/327.67 Units: Hz Scale: x 10		RO	16-bit Integer
526 	Stator Frequency Displays stator frequency as a percentage of Par 3 [Motor NP Hertz].	Default: 0.0 Min/Max: -/+800.0 Units: % Scale: x 10		RO	16-bit Integer
527 	Start/Acc Boost Sets the voltage boost level for starting and acceleration when "V/Hz" mode is selected. Note: This parameter was added for firmware version 2.003.	Default: 50.0 Min/Max: 0.0/1150.0 Units: VAC		RW	16-bit Integer
528 	Run Boost Sets the boost level for steady state or deceleration when "V/Hz" mode is selected. Note: This parameter was added for firmware version 2.003.	Default: 50.0 Min/Max: 0.0/1150.0 Units: VAC		RW	16-bit Integer
529 	Break Voltage Sets the voltage the drive will output at Par 530 [Break Frequency]. Note: This parameter was added for firmware version 2.003.	Default: 1150.0 Min/Max: 0.0/6900.0 Units: VAC		RW	16-bit Integer
530 	Break Frequency Sets the frequency the drive will output at Par 529 [Break Voltage]. Note: This parameter was added for firmware version 2.003.	Default: 150.0 Min/Max: 0.0/400.0 Units: Hz		RW	16-bit Integer
531 	Maximum Voltage Sets the highest voltage the drive will output. Note: This parameter was added for firmware version 2.003.	Default: 460.0 Min/Max: 60.0/690.0 Units: VAC		RW	16-bit Integer
532 	Maximum Freq Sets the highest frequency the drive will output. This parameter is a function of Par 3 [Motor NP Hertz]. Note: This parameter was added for firmware version 2.003.	Default: (Par 3 [Motor NP Hertz] * 2) + 10Hz Min/Max: Par 3 [Motor NP Hertz] + 10 Hz/420.0 Units: Hz		RW	16-bit Integer
533 	SlewRateTimeLimit Defines the time limit in seconds during which torque producing voltage (Vqs) regulator output variations are limited by each slew rate at the transition where the Vqs regulator turns on. The same time limit is applied at the transition to the slip regulator when the slip regulator turns on. A value of zero disables the slew rate function on both the Vqs regulator output and the slip regulator output. Par 553 defines the slew rate for the slip regulator and Par 586 [IdsCmd Slew Rate] defines the slew rate for the Vqs regulator. Notes: This parameter was added for firmware version 3.001. This parameter was renamed from "Flux Gain Adjust" to "SlewRateTimeLimit", the default value was changed to "10.0" and the minimum value was changed to "0.0" for firmware version 4.001.	Default: 0.0 Min/Max: 0.0/1126.0		RW	16-bit Integer
534 	Nth CompOff Freq The Nth compensation current amplitude is constant (defined by Par 595 [Nth Amplitude]) up to this frequency, then linearly reduced to zero at the frequency of Par 534 + 6.25%. Note: This parameter was added for firmware version 5.002.	Default: 819 Min/Max: 0/32767 Scaling: 4096/ Par 3 [Motor NP Hertz]		RW	16-bit Integer
535 	Mth CompOff Freq The Mth compensation current amplitude is constant (defined by Par 598 [Mth Amplitude]) up to this frequency, then linearly reduced to zero at the frequency of Par 535 + 6.25%. Note: This parameter was added for firmware version 5.002.	Default: 819 Min/Max: 0/32767 Scaling: 4096/ Par 3 [Motor NP Hertz]		RW	16-bit Integer
537 	SrLssAngleStblty Adjusts the electrical angle to maintain stable motor operation. An increase in the value increases the angle adjustment.	Default: 51.0 Min/Max: 0.0/32767.0		RW	16-bit Integer

No.	Name Description	Values		Linkable	Read-Write	Data Type																																																									
538 A	SrLss VoltStblty Adjusts the voltage to maintain stable motor operation. An increase in the value increases the output voltage adjustment.	Default: Min/Max:	93.0 0.0/32767.0		RW	16-bit Integer																																																									
539 A	SrLss StbltyFilt The coefficient is used to adjust the bandwidth of a low pass filter. The smaller the value of the coefficient, the lower the bandwidth of the filter.	Default: Min/Max:	3250.0 0.0/32767.0		RW	16-bit Integer																																																									
540	V/Hz Status Indicates the limit status of the V/Hz Control Operation. Note: This parameter was added form firmware version 2.003. <table><tr><td>Options</td><td></td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Bus Volt Lim</td><td>Current Lim</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td></td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td><td></td></tr></table> 0 = False 1 = True						Options		Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Bus Volt Lim	Current Lim	Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	Bit		15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
Options		Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Bus Volt Lim	Current Lim																																													
Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0																																													
Bit		15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																														
541 A	SrLss Angl Comp Not currently used. Note: This parameter was added for future use - not active for use with firmware version 2.003 and above.	Default: Min/Max:	0.0 +/- 16384		RW	16-bit Integer																																																									
542 A	SrLss Volt Comp Not currently used. Note: This parameter was added for future use - not active for use with firmware version 2.003 and above.	Default: Min/Max: Units:	100.0 +/- 1000.0 V		RW	16-bit Integer																																																									
544 	External DB Res Sets the resistance value of an external dynamic braking resistor. This value is used to determine the power applied to the resistor and thus calculate its temperature. Note: This parameter was added for firmware version 4.001.	Default: Min/Max: Units:	49.0 0.1/500.0 Ohm		RW	Real																																																									
545 A	Bus Reg Ki Sets the responsiveness of the bus regulator. Note: This parameter was added for firmware version 2.003.	Default: Min/Max:	450.0 0.0/100000		RW	16-bit Integer																																																									
546 A	Bus Reg Kp Proportional gain for the bus regulator. Used to adjust regulator response. Note: This parameter was added for firmware version 2.003.	Default: Min/Max:	1500.0 0.0/10000.0		RW	16-bit Integer																																																									
547 A	Bus Reg Kd Derivative gain for the bus regulator. Used to control regulator overshoot. Note: This parameter was added for firmware version 2.003.	Default: Min/Max:	1000.0 0.0/10000.0		RW	16-bit Integer																																																									
548 A	Bus Reg ACR Kp This proportional gain, in conjunction with Par 545 [Bus Reg Ki], adjusts the output frequency of the drive during a bus limit or inertia ride through condition. The output frequency is adjusted in response to an error in the active, or torque producing, current to maintain the active bus limit, or inertia ride through bus reference. A larger value of gain reduces the dynamic error of the active current. Note: This parameter was added for firmware version 2.003.	Default: Min/Max:	225.0 0.0/100000		RW	16-bit Integer																																																									
549	Vuv Fdbk Offset Displays the motor U phase to V phase offset voltage from the voltage feedback circuit. The value of the offset is a uni-polarity signal. A zero offset is equal to 16384. Note: This parameter was added for firmware version 3.001.	Default: Min/Max:	16384.0 15764.0/17004.0		RW	16-bit Integer																																																									
550	Vvw Fdbk Offset Displays the motor V phase to W phase offset voltage from the voltage feedback circuit. The value of the offset is a uni-polarity signal. A zero offset is equal to 16384. Note: This parameter was added for firmware version 3.001.	Default: Min/Max:	16384.0 15764.0/17004.0		RW	16-bit Integer																																																									
551 A	CurrFdbk AdjTime Compensates for current feedback delays in High Horse Power drives (frames 9 and up). Note: This parameter was added for firmware version 3.001.	Default: Min/Max: Units:	0.0 0.0/50.0 µs		RW	16-bit Integer																																																									
552 A	Slip Preload Val The Slip Gain value to be pre-loaded if the drive is powered down. Note: This parameter was added for firmware version 3.001.	Default: Min/Max:	120.0 0.0/8192.0		RW	32-bit Integer																																																									
553 A	Slip Slew Rate Sets the rate at which the Slip Gain Regulator output transitions from the inactive state to the active state. Notes: This parameter was added for firmware version 3.001. The default value was changed from "2.000" to "0.200" for firmware version 4.001.	Default: Min/Max: Units:	0.200 0.010/16.383 µs		RW	Real																																																									

No.	Name Description	Values	Linkable	Read-Write	Data Type																												
554	LED Status Used to monitor LED statuses including the main controller, SynchLink and DriveLogix5370 from a HIM or an application program (e.g., DriveExplorer™). This feature is only available with DriveLogix version 15.03 or later. • Bit 0 “Sts Active” - Drive running, no faults are present. • Bit 1 “Sts Ready” - Drive ready, but not running & no faults are present. • Bit 2 “Sts HW Fault” - A non-resettable fault has occurred in the drive. • Bit 3 “Sts Fault” - A fault has occurred in the drive. • Bit 4 “Sts Alarm” - A type 1 (user configurable) alarm condition exists, but the drive continues to run. • Bit 5 “Sts RunInhbt” - A type 2 (non-configurable) alarm condition exists, drive continues to run. • Bit 6 “Sync InSync” - The module is configured as the time keeper or the module is configured as a follower and synchronization is complete. • Bit 7 “Sync NotSync” - The follower(s) are not configured with the time keeper. • Bit 8 “DL Run Mode” - The controller is in “Run” mode. • Bit 9 “DL Force Act” - I/O forces are active (enabled) but may or may not exist. • Bit 10 “DL ForceNtEn” - One or more input or output addresses have been forced to an On or Off state, but the forces have not been enabled. • Bit 11 “DL Battery” - Either the battery is not installed or 95% discharged and should be replaced. • Bit 12 “DL I/O Activ” - The controller is communicating with all the devices in its I/O configuration. • Bit 13 “DL I/O Alarm” - One or more devices in the I/O configuration of the controller are not responding. • Bit 14 “DL I/O Fault” - The controller is not communicating to any devices and is faulted. • Bit 15 “DL ComActive” - RS-232 activity. • Bit 16 “DL Fault” - The controller detected a non-recoverable fault, so it cleared the project from memory. • Bit 17 “DL NotActive” - If the controller is a new, then it requires a firmware update, or if the controller is not new, a major fault occurred. • Bit 18 “DL OK” - Controller is OK. • Bit 19 “DL Loading” - The controller is storing or loading a project to or from nonvolatile memory. • Bit 20 “DL CF Flash” - The controller is reading from or writing to the CompactFlash™ card. • Bit 21 “DL CF Format” - The CompactFlash memory is not initialized. • Bit 22 “DL CF Error” - CompactFlash card does not have a valid file system. Note: This parameter was added for firmware version 3.001.																																
	Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	DL CF Error	DL CF Format	DL CF Flash	DL Loading	DL OK	DL NotActive	DL Fault	DL ComActive	DL I/O Fault	DL I/O Alarm	DL I/O Activ	DL Battery	DL ForceNtEn	DL Force Act	DL Run Mode	Sync NotSync	Sync InSync	Sts RunInhbt	Sts Alarm	Sts Fault	Sts HW Fault	Sts Ready	Sts Active
	Default	x	x	x	x	x	x	x	x	x	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
																																	0 = False 1 = True

555	MC Status Indicates the status of the Motor Control (MC) Processor and related functions. Note: Changed bit 18 from “Reserved” to “Vqs Reg Act” for firmware version 3.003.																																
	Options	Min Vqs	MaxDCBus Vqs	MaxMotor Vqs	Max Vds	Min Vds	SrLssWsLimit	Slip Limit	Regen	Iqs Limit	FldWeakening	MC FW Group2	Reserved	Reserved	Vqs Reg Act	FluxRatioRef	Command Lim	DC Bus Low	MC Test Mode	PreChrg Req	PWM En	PreChrg Done	Flux En	Torque En	Change Dir	MC CommisFlt	MC CommisRun	MC Fault	MC Ready	BaseBlockReq	TorqueRunReq	Flux Run Req	MC En Req
	Default	0	0	0	0	0	0	0	0	0	0	0	x	x	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
																																	0 = False 1 = True

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																																											
556	Trend Control Set bits to configure the Data Trend function: - Bit 0 "Enbl Collect" - Trend data collection begins on the rising edge of this bit and continues until either this bit is set low or the trend data has been completely collected. This bit should be cleared following either the 'Triggered' status or 'Complete' status in order to complete the trend sequence. This bit can also be cleared at any time to force the trend data sampling to stop and set the 'Complete' status bit. - Setting bit 1 "In1 Real" - specifies the Real data type for Trend Input 1. The source for Real data is Par 571 [Trend In1 Real]. Clearing the bit specifies the Integer data type. The source for Integer data is Par 570 [Trend In1 DInt]. - Setting bit 2 "In2 Real" - specifies the Real data type for Trend Input 2. The source for Real data is Par 575 [Trend In2 Real]. Clearing the bit specifies the Integer data type. The source for Integer data is Par 574 [Trend In2 DInt]. - Setting bit 3 "In3 Real" - specifies the Real data type for Trend Input 3. The source for Real data is Par 579 [Trend In3 Real]. Clearing the bit specifies the Integer data type. The source for Integer data is Par 578 [Trend In3 DInt]. - Setting bit 4 "In4 Real" - specifies the Real data type for Trend Input 4. The source for Real data is Par 583 [Trend In4 Real]. Clearing the bit specifies the Integer data type. The source for Integer data is Par 582 [Trend In4 DInt]. - Setting bit 15 "Auto Output" causes the trend output parameters to automatically cycle through the entire trend buffer at the rate specified in Par 559 [Trend Rate]. Typically, you link the output to an analog output for display on an oscilloscope. - Auto output is accomplished by writing to Par 569 [TrendBuffPointer]. Clearing this bit requires manual selection of Par 569 [TrendBuffPointer] to view the trend buffer contents.	<table><tr><td>Options</td><td>Auto Output</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>In 4 Real</td><td>In 3 Real</td><td>In 2 Real</td><td>In 1 Real</td><td>Enbl Collect</td></tr><tr><td>Default</td><td>0</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td><td></td></tr></table>	Options	Auto Output	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	In 4 Real	In 3 Real	In 2 Real	In 1 Real	Enbl Collect	Default	0	x	x	x	x	x	x	x	x	x	x	x	0	0	0	0	0	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0		0 = False 1 = True																							
Options	Auto Output	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	In 4 Real	In 3 Real	In 2 Real	In 1 Real	Enbl Collect																																																															
Default	0	x	x	x	x	x	x	x	x	x	x	x	0	0	0	0	0																																																															
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																
557	Trend Status Bits indicate the status of the Data Trend function: - Bit 1 "Triggered" indicates a Trend Trigger event has been detected. This bit will clear in response to the rise of Par 556 [Trend Control], bit 0 "Enbl Collect". - Bit 2 "Complete" indicates all the post trigger data samples have been gathered and the trend buffers are full. It will also be set if the Par 556 [Trend Control], bit 0 "Enbl Collect" is cleared before the trigger occurs. The trend data outputs will be updated from the contents of the trend buffer data when this bit is set. Par 556 [Trend Control], bit 0 "Enbl Collect" can be cleared after this bit is set without affecting the trend data buffer contents. This bit will clear in response to the rise of Par 556 [Trend Control], bit 0 "Enbl Collect". The trend outputs will be forced to zero while this bit is clear.	<table><tr><td>Options</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Complete</td><td>Triggered</td><td>Reserved</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>x</td></tr><tr><td>Bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td></tr></table>	Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Complete	Triggered	Reserved	Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	x	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	0 = False 1 = True		
Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Complete	Triggered	Reserved																																																								
Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	x																																																								
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8																																																								
558	Trend State Value indicates the state of the Data Trend function. - Value 0 - Wait Enable indicates the trend function is ready and waiting to begin data collection. Setting bit 0 "Enbl Collect" of Par 556 [Trend Control] will cause data collection to begin. In this state, Par 569 [TrendBuffPointer] and the Trend Output Parameters are active. - Value 1 - First Scan indicates the Trend function is executing the first pass through the trend sample buffer. This takes 512 ms. (0.5 ms x 1024 samples). When it enters this state, the Trend function clears bit 1 "Triggered" and 2 "Complete" bits of Par 557 [Trend Status]. While in this state, the Trend function refreshes the data. Also while in this state, the function forces the Trend Output parameters to zero. When done, it enters the Pre-trigger state. - Value 2 - Pre-trigger indicates the Trend function is sampling the trend inputs and storing them in memory, at a rate determined by Par 559 [Trend Rate]. Sampling continues until either the trend trigger event occurs or bit 0 "Enbl Collect" of Par 556 [Trend Control] is cleared. While in this state, the Trend function forces the Trend Output parameters to zero. If the trigger event occurs, the function sets bit 1 "Triggered" of Par 557 [Trend Status] and enters the Post-trigger state. If bit 0 "Enbl Collect" of Parameter 556 [Trend Control] is cleared, the function sets bit 2 "Complete" of Par 557 [Trend Status] and returns to the Wait Enable state. - Value 3 - Post-trigger indicates the Trend function is continuing to sample and save the trend inputs until the buffer is full. While in this state, the function forces the Trend Output parameters to zero value. When the buffer is full, the function sets bit 2 "Complete" of Par 557 [Trend Status] and enters the Wait Disable state. - Value 4 - Wait Disable indicates the Trend function is complete and waiting for bit 0 "Enbl Collect" of Par 556 [Trend Control] to be cleared. When this is done, the trend function returns to the Wait Enable state. While in the Wait Disable state, Par 569 [TrendBuffPointer] and the Trend Output Parameters are active.	Default: 0 = "Wait Enable" Options: 0 = "Wait Enable" 1 = "First Scan" 2 = "Pre-trigger" 3 = "Post-trigger" 4 = "Wait Disable"																																																																														
559	Trend Rate Sets the sample time for both trend input and output updates.	Default: 0.5000 Min/Max: 0.5000/1000.0000 Units: ms	✓	RW	Real																																																																											

No.	Name Description	Values	Linkable	Read-Write	Data Type
560	Trend TrigA DInt Provides the integer input for the A trigger function. This integer is converted to a real number and summed with Par 561 [Trend TrigA Real]. The result is compared with the Trigger B sum. If the A sum exceeds the B sum, then a trend trigger will occur.	Default: 0 Min/Max: -/+2147483648	✓	RW	32-bit Integer
561	Trend TrigA Real Provides the real input for the A trigger function. This real number is summed with Par 560 [Trend TrigA Int]. The result is compared with the Trigger B sum. If the A sum exceeds the B sum, then a trend trigger will occur.	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
562	Trend TrigB DInt Provides the integer input for the B trigger function. This integer is converted to a real number and summed with Par 563 [Trend TrigB Real]. The result is compared with the Trigger A sum. If the A sum exceeds the B sum, then a trend trigger will occur.	Default: 0 Min/Max: -/+2147483648	✓	RW	32-bit Integer
563	Trend TrigB Real Provides the real input for the B trigger function. This real number is summed with Par 562 [Trend TrigB Int]. The result is compared with the Trigger A sum. If the A sum exceeds the B sum, then a trend trigger will occur.	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
564	Trend Trig Data This is the logic input for the Trend Trigger Function. A trigger will occur on the rise of the specified bit in this word. The bit will be specified by Par 565 [Trend Trig Bit].	Default: 00000000000000000000000000000000 Min: 00000000000000000000000000000000 Max: 11111111111111111111111111111111	✓	RW	32-bit Boolean
565	Trend Trig Bit Specifies the bit in Par 564 [Trend Trig Data] that will cause a Trend Trigger to occur. Positive numbers specify rising edges and negative numbers specify falling edges.	Default: 0 Min/Max: -32/31	✓	RW	16-bit Integer
566	Trend PreSamples Specifies the number pre-trigger samples in the trend buffer. Pre-trigger samples are the samples that occur before the trigger and remain in the buffer. The remainder of the trend buffer will contain post-trigger samples.	Default: 511 Min/Max: 0/1022	✓	RW	16-bit Integer
567	Trend Mark DInt Marks the start of data for trend buffers that are using integer data. The Trend Marker can be used to provide a scope trigger signal for the Auto Output function.	Default: 0 Min/Max: -/+2147483648	✓	RW	32-bit Integer
568	Trend Mark Real Marks the start of data for trend buffers that are using real data. The Trend Marker can be used to provide a scope trigger signal for the Auto Output function.	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
569	TrendBuffPointer Selects the trend buffer element to be displayed in the Trend Output Parameters when the trend function is inactive (not collecting data samples). A zero value points to the element that corresponds to the trigger event. Negative values point to pre-trigger data. Positive values point to post-trigger data. When the Auto Output function is running, this parameter will automatically sequence through its full range, at a rate set by Par 559 [Trend Rate].	Default: 0 Min/Max: -/+1023	✓	RW	16-bit Integer
570	Trend In1 DInt Provides integer input to the Trend 1. The Trending function samples this parameter for Trend Buffer 1, if bit 1 "In 1 Real" is cleared.	Default: 0 Min/Max: -/+2147483648	✓	RW	32-bit Integer
571	Trend In1 Real Provides real input to the Trend 1. The Trending function samples this parameter for Trend Buffer 1, if bit 1 "In 1 Real" is set.	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
572	Trend Out1 DInt Displays the output for Trend Buffer 1, if the buffer is using integer data. This will equal the value of the element, in Trend Buffer 1, specified by Par 569 [TrendBuffPointer].	Default: 0 Min/Max: -/+2147483648		RO	32-bit Integer
573	Trend Out1 Real Displays the output for Trend Buffer 1, if the buffer is using real data. This will equal the value of the element, in Trend Buffer 1, specified by Par 569 [TrendBuffPointer].	Default: 0.0000 Min/Max: -/+2200000000.0000		RO	Real
574	Trend In2 DInt Provides integer input to the Trend 2. The Trending function samples this parameter for Trend Buffer 2, if bit 2 "In 2 Real" is cleared.	Default: 0 Min/Max: -/+2147483648	✓	RW	32-bit Integer
575	Trend In2 Real Provides real input to the Trend 2. The Trending function samples this parameter for Trend Buffer 2, if bit 2 "In 2 Real" is set.	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
576	Trend Out2 DInt Displays the output for Trend Buffer 2, if the buffer is using integer data. This will equal the value of the element, in Trend Buffer 2, specified by Par 569 [TrendBuffPointer].	Default: 0 Min/Max: -/+2147483648		RO	32-bit Integer
577	Trend Out2 Real Displays the output for Trend Buffer 2, if the buffer is using real data. This will equal the value of the element, in Trend Buffer 2, specified by Par 569 [TrendBuffPointer].	Default: 0.0000 Min/Max: -/+2200000000.0000		RO	Real
578	Trend In3 DInt Provides integer input to the Trend 3. The Trending function samples this parameter for Trend Buffer 3, if bit 3 "In 3 Real" is cleared.	Default: 0 Min/Max: -/+2147483648	✓	RW	32-bit Integer

No.	Name Description	Values	Linkable	Read-Write	Data Type
579	Trend In3 Real Provides real input to the Trend 3. The Trending function samples this parameter for Trend Buffer 3, if bit 3 "In 3 Real" is set.	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
580	Trend Out3 DInt Displays the output for Trend Buffer 3, if the buffer is using integer data. This will equal the value of the element, in Trend Buffer 3, specified by Par 569 [TrendBuffPointer].	Default: 0 Min/Max: -/+2147483648		RO	32-bit Integer
581	Trend Out3 Real Displays the output for Trend Buffer 3, if the buffer is using real data. This will equal the value of the element, in Trend Buffer 3, specified by Par 569 [TrendBuffPointer].	Default: 0.0000 Min/Max: -/+2200000000.0000		RO	Real
582	Trend In4 DInt Provides integer input to the Trend 4. The Trending function samples this parameter for Trend Buffer 4, if bit 4 "In 4 Real" is cleared.	Default: 0 Min/Max: -/+2147483648	✓	RW	32-bit Integer
583	Trend In4 Real Provides real input to the Trend 4. The Trending function samples this parameter for Trend Buffer 4, if bit 4 "In 4 Real" is set.	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
584	Trend Out4 DInt Displays the output for Trend Buffer 4, if the buffer is using integer data. This will equal the value of the element, in Trend Buffer 4, specified by Par 569 [TrendBuffPointer].	Default: 0 Min/Max: -/+2147483648		RO	32-bit Integer
585	Trend Out4 Real Displays the output for Trend Buffer 4, if the buffer is using real data. This will equal the value of the element, in Trend Buffer 4, specified by Par 569 [TrendBuffPointer].	Default: 0 Min/Max: -/+2200000000.0000		RO	Real
586 A	IdsCmd Slew Rate Defines the slew rate for the torque producing voltage (Vqs) regulator. The output variation is limited by one count every Par 586 / 16 sec. Notes: This value should not be changed. This parameter was added for firmware version 4.001.	Default: 5.000 Min/Max: 0.000/16.383 Units: s		RW	Real
587	SlipReg Err Lmt Defines the error level at which the slip regulator input becomes active. When the error level reaches the value specified in this parameter and the error count condition (specified in Par 589 [Err Count Lmt]) is met, the drive control will transition from the slew rate limit mode to normal operation of the slip regulator. Notes: This value should not be changed. This parameter was added for firmware version 4.001.	Default: 0 Min/Max: +/-32767		RW	16-bit Integer
588	VqsReg Err Lmt Defines the error level at which the Flux Producing Voltage (Vqs) regulator input becomes active. When the error level reaches the value specified in this parameter and the error count condition (specified in Par 589 [Err Count Lmt]) is met, the drive control will transition from the slew rate limit mode to normal operation of the Vqs regulator. Notes: This value should not be changed. This parameter was added for firmware version 4.001.	Default: 0 Min/Max: +/-32767		RW	16-bit Integer
589	Err Count Lmt Defines the control loop counts limit, where the counter counts up if the error level of the Vqs regulator input is equal to the error level during Flux Producing Current (Ids) command Slew Rate operation. When the counter exceeds the value of this parameter then the normal Vqs regulator operation becomes active. The same limit of control loop counts is applied to the Slip Slew Rate operation, where the counter counts up if the error level of the Slip regulator input is equal to the error level during Slip Slew Rate operation. When the counter exceeds the value of this parameter then the normal Slip regulator operation becomes active. Notes: This value should not be changed. This parameter was added for firmware version 4.001.	Default: 0 Min/Max: +/-32767		RW	16-bit Integer
590	RsTempCoefAdjust The value specified in this parameter adjusts the temperature compensation coefficient which is calculated based on the Slip regulator output. A value of 4096 in this parameter doubles the compensation coefficient. Notes: This value should not be changed. This parameter was added for firmware version 4.001.	Default: 0 Min/Max: +/-32767		RW	16-bit Integer
591	RsTmpCoefAdjstEn A value of "1" in this parameter enables the temperature compensation function in flux and torque estimate calculation, where the temperature information is based on the Slip regulator output. A value of "0" in this parameter disables the temperature compensation function. Notes: This value should not be changed. This parameter was added for firmware version 4.001.	Default: 0 Min/Max: +/-32767		RW	16-bit Integer
592	VqsReg On Hystr For Future Use. Note: This parameter was added for firmware version 4.001.	Default: 0 Min/Max: +/-32767		RW	16-bit Integer

No.	Name Description	Values	Linkable	Read-Write	Data Type																														
593	SlipReg On Hysr For Future Use. Note: This parameter was added for firmware version 4.001.	Default: 0 Min/Max: +/-32767		RW	16-bit Integer																														
594 A	Nth Torq Compen Defines harmonic frequency as <n> times mechanical frequency. Note: This parameter was added for firmware version 5.002.	Default: 0 Min/Max: 0/1000		RW	16-bit Integer																														
595 A	Nth Amplitude Defines the compensation current amplitude for the Nth harmonic component. Note: This parameter was added for firmware version 5.002.	Default: 0 Min/Max: 0/4096 Scaling: 4096/ Par 2 [Motor NP FLA]		RW	16-bit Integer																														
596 A	Nth Phase Shift Defines the phase shift for the Nth harmonic component. Note: This parameter was added for firmware version 5.002.	Default: 0 Min/Max: +/-16384 Scaling: 16384/360 deg		RW	16-bit Integer																														
597 A	Mth Torq Compen Defines harmonic frequency as <m> times mechanical frequency. Note: This parameter was added for firmware version 5.002.	Default: 0 Min/Max: 0/1000		RW	16-bit Integer																														
598 A	Mth Amplitude Defines the compensation current amplitude for the Mth harmonic component. Note: This parameter was added for firmware version 5.002.	Default: 0 Min/Max: 0/4096 Scaling: 4096/ Par 2 [Motor NP FLA]		RW	16-bit Integer																														
599 A	Mth Phase Shift Defines the phase shift for the Mth harmonic component. Note: This parameter was added for firmware version 5.002.	Default: 0 Min/Max: +/-16384 Scaling: 16384/360 deg		RW	16-bit Integer																														
600 C	Lgx Comm Format Indicates the Controller to Drive communication format. Note: Option values 1...15 and 20...31 are "Reserved"	Default: 16 = "Speed Ctrl" Options: 0 = "Not Used" 18 = "UserDefin 1" 16 = "Speed Ctrl" 19 = "Motion" 17 = "PositionCtrl" 32 = "CustmUserDef"																																	
601																																			
	From DL DataType Sets the type of data for each word communicated from DriveLogix™ to the PowerFlex 700S drive. Setting a bit High will configure the associated word as a Real data type and setting the bit Low will configure it for Integer data type.																																		
	Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	DL 20 Real	DL 19 Real	DL 18 Real	DL 17 Real	DL 16 Real	DL 15 Real	DL 14 Real	DL 13 Real	DL 12 Real	DL 11 Real	DL 10 Real	DL 09 Real	DL 08 Real	DL 07 Real	DL 06 Real	DL 05 Real	DL 04 Real	DL 03 Real	DL 02 Real	DL 01 Real	DL 00 Real	
	Default	x	x	x	x	x	x	x	x	x	x	x	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = False 1 = True	
	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0		
602 to 622	FromDriveLogix00 to FromDriveLogix20 These parameters display the input values communicated from the DriveLogix controller to the PowerFlex 700S drive.	Default: 0 Min/Max: +/-32 (dependant on Par 601 [From DL DataType])		RO	32-bit Integer																														
625																																			
	To DL DataType Sets the data type for each word communicated from the PowerFlex 700S drive to DriveLogix. Setting a bit High will configure the associated word as a Real data type and setting the bit Low will configure it for Integer data type.																																		
	Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	DL 20 Real	DL 19 Real	DL 18 Real	DL 17 Real	DL 16 Real	DL 15 Real	DL 14 Real	DL 13 Real	DL 12 Real	DL 11 Real	DL 10 Real	DL 09 Real	DL 08 Real	DL 07 Real	DL 06 Real	DL 05 Real	DL 04 Real	DL 03 Real	DL 02 Real	DL 01 Real	DL 00 Real	
	Default	x	x	x	x	x	x	x	x	x	x	x	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 = False 1 = True	
	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0		

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																
626 to 646	To DriveLogix00 to To DriveLogix20 These parameters display the output values communicated from the PowerFlex 700S drive to the DriveLogix controller.	Default: 0 Min/Max: -/+32 (dependant on Par 625 [To DL DataType])	✓	RO	Set by Par 625																																																
650	DPI In DataType Sets the data type for each word communicated from an external controller to the PowerFlex 700S drive via a DPI communication module. Setting a bit high will configure the associated word as a Real data type and setting the bit low will configure it for Integer data type. <table><tr><td>Options</td><td>DPI D2</td><td>Real</td><td>DPI D1</td><td>Real</td><td>DPI C2</td><td>Real</td><td>DPI C1</td><td>Real</td><td>DPI B2</td><td>Real</td><td>DPI B1</td><td>Real</td><td>DPI A2</td><td>Real</td><td>DPI A1</td><td>Real</td></tr><tr><td>Default</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td><td colspan="7">0 = False 1 = True</td></tr></table>	Options	DPI D2	Real	DPI D1	Real	DPI C2	Real	DPI C1	Real	DPI B2	Real	DPI B1	Real	DPI A2	Real	DPI A1	Real	Default	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bit	7	6	5	4	3	2	1	0	0 = False 1 = True									
Options	DPI D2	Real	DPI D1	Real	DPI C2	Real	DPI C1	Real	DPI B2	Real	DPI B1	Real	DPI A2	Real	DPI A1	Real																																					
Default	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																						
Bit	7	6	5	4	3	2	1	0	0 = False 1 = True																																												
651 652 653 654 655 656 657 658	DPI Data In A1 DPI Data In A2 DPI Data In B1 DPI Data In B2 DPI Data In C1 DPI Data In C2 DPI Data In D1 DPI Data In D2 These parameters display the input values communicated from DPI communication modules to the PowerFlex 700S drive.	Default: 0 Min/Max: -/+32 (dependant on Par 650 [DPI In DataType])		RO	32-bit Integer																																																
659	DPI Out DataType Sets the data type for each word communicated from the PowerFlex 700S drive to an external controller via a DPI communication module. Setting a bit high will configure the associated word as a Real data type and setting the bit low will configure it for Integer data type. <table><tr><td>Options</td><td>DPI D2</td><td>Real</td><td>DPI D1</td><td>Real</td><td>DPI C2</td><td>Real</td><td>DPI C1</td><td>Real</td><td>DPI B2</td><td>Real</td><td>DPI B1</td><td>Real</td><td>DPI A2</td><td>Real</td><td>DPI A1</td><td>Real</td></tr><tr><td>Default</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td><td colspan="7">0 = False 1 = True</td></tr></table>	Options	DPI D2	Real	DPI D1	Real	DPI C2	Real	DPI C1	Real	DPI B2	Real	DPI B1	Real	DPI A2	Real	DPI A1	Real	Default	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bit	7	6	5	4	3	2	1	0	0 = False 1 = True									
Options	DPI D2	Real	DPI D1	Real	DPI C2	Real	DPI C1	Real	DPI B2	Real	DPI B1	Real	DPI A2	Real	DPI A1	Real																																					
Default	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																						
Bit	7	6	5	4	3	2	1	0	0 = False 1 = True																																												
660 661 662 663 664 665 666 667	DPI Data Out A1 DPI Data Out A2 DPI Data Out B1 DPI Data Out B2 DPI Data Out C1 DPI Data Out C2 DPI Data Out D1 DPI Data Out D2 These parameters display the output values communicated from the PowerFlex 700S drive to DPI communication modules.	Default: 0 Min/Max: -/+32 (dependant on Par 659 [DPI Out DataType])	✓	RW	Set by Par 659																																																
669	Write Mask Enables/disables write access (parameters, links, etc.) for DPI ports. Changes to this parameter only become effective when power is cycled, the drive is reset or bit 15 “Security” of Par 712 [Write Mask Act], transitions from “1” to “0.” Note: This parameter was added for firmware version 3.001. <table><tr><td>Options</td><td>DriveLogix</td><td>Reserved</td><td>Int DPI Comm</td><td>Reserved</td><td>Aux DPI Conn</td><td>Ext DPI Conn</td><td>Local HIM</td><td>Terminal Blk</td></tr><tr><td>Default</td><td>1</td><td>1</td><td>1</td><td>x</td><td>1</td><td>1</td><td>1</td><td>1</td></tr><tr><td>Bit</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True	Options	DriveLogix	Reserved	Int DPI Comm	Reserved	Aux DPI Conn	Ext DPI Conn	Local HIM	Terminal Blk	Default	1	1	1	x	1	1	1	1	Bit	7	6	5	4	3	2	1	0																									
Options	DriveLogix	Reserved	Int DPI Comm	Reserved	Aux DPI Conn	Ext DPI Conn	Local HIM	Terminal Blk																																													
Default	1	1	1	x	1	1	1	1																																													
Bit	7	6	5	4	3	2	1	0																																													

No.	Name Description	Values	Linkable	Read-Write	Data Type
670	Logic Mask Determines which adapters can control the drive.				
671	Start Mask Controls which adapters can issue start commands.				
672	Jog Mask Controls which adapters can issue jog commands.				
673	Direction Mask Controls which adapters can issue forward/reverse direction commands.				
674	Fault Clr Mask Controls which adapters can clear a fault.				
677	Stop Owner Indicates which adapter are currently issuing a valid stop command.				
678	Start Owner Indicates which adapter are currently issuing a valid start command.				
679	Jog Owner Indicates which adapter are currently issuing a valid jog command.				
680	Direction Owner Indicates which adapter is currently has exclusive control of direction changes.				
681	Fault Clr Owner Indicates which adapter is currently clearing a fault.				
	Options				
	Drivelogix Reserved Int DPI Conn Reserved Aux DPI Conn Ext DPI Conn Local HIM Terminal Blk				
	Default	1 1 1 1 1 1 1 1			
	Bit	7 6 5 4 3 2 1 0			
		0 = False 1 = True			
684	MotnUpdatePeriod The servo update period for the servo axis (drive).	Default: 2000 Min/Max: 1/999999 Unit: µs		RO	32-bit Integer
685	Motn CoarseMulti Number of Par 684 [MotnUpdatePeriod] comprising one Course Update Period from the Motion Period.	Default: 4 Min/Max: 2/16		RO	32-bit Integer
686	Motn Config Configuration bits pertaining to Motion-related functions for the Servo axis.				
A	Options				
	Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Hrd Ovr Trvl Sft Ovr Trvl Polarity Neg				
	Default	x x x x x x x x x x x x x 0 0 0			
	Bit	15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0			
		0 = False 1 = True			
687	Motn Axis Status Status bits pertaining to Motion-related functions for the Servo axis.				
A	Options				
	Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved AxisShdwnC1 Reserved Reserved Chng Ref Reserved Reserved Course Updt CST Updt Err Hrd OvrTrvl +Hrd OvrTrvl -Sft OvrTrvl +Sft OvrTrvl Reserved Reserved Reserved Posit Lock AxisShutdown Drv Enable Motn Action				
	Default	x x x x x x x x x x x x 0 x x 0 0 0 0 0 0 x x x 0 0 0 0			
	Bit	31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0			
		0 = False 1 = True			
688	Motn AxisControl Command request bits from the Motion Planner both the Servo and Feedback Only axis.				
A	Options				
	ChngCmdRefC1 Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Abt Evt C1 Abt Home C1 Reserved Shutdown C1 Reserved ChngCmdRefC0 Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Abt Evt C0 Abt Home C0 Reserved Shutdown C0 Reserved				
	Default	0 x x x x x x x x x x 0 0 x 0 x 0 x x x x x x x 0 0 x 0 x			
	Bit	31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0			
		0 = False 1 = True			

No.	Name Description	Values	Linkable	Read-Write	Data Type
689	Motn Axis Resp Command response from both the Servo and Feedback Only Axis to the Motion Planner.				
A	Options	ChngPosHfC1 Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Abt Evt C1 Abt Home C1 Reserved Shutdown C1 Reserved Chng XHef C0 Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Abt Evt C0 Abt Home C0 Reserved Shutdown C0 Reserved			
	Default	0 x x x x x x x x x x x 0 0 x x x x x x x x x 0 0 x x 0 x			
	Bit	31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0			0 = False 1 = True
690	Motn Cnct Status Status of all Motion connections. Also includes status for the configuration state relating to motion connections.				
	Options	Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved MSO Input Drive Ready Asynch Cnct Event Cnct Synch Cnct UserIO Cnct Config OK			
	Default	x x x x x x x x x 0 0 0 0 0 0 0			0 = False 1 = True
	Bit	15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0			
691	Motn EventStatus Status of all events supported by the Motion Event Connection. Note: Added bit 9 "Watch Fb Arm" and bit 10 "WatchFbPosit" for firmware version 3.003.				
A	Options	Reserved Reserved Reserved Reserved Reserved WatchFbPosit Watch Fb Arm Reserved Home Home Arm Regis2 Posit Regis2 X Arm Regis1 Posit Regis1 X Arm Watch Posit Watch X Arm			
	Default	x x x x x 0 0 x 0 0 0 0 0 0 0			0 = False 1 = True
	Bit	15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0			
692	Motn Event Ctrl Shows configuration state of Motion Event functions. Note: Added bit 7 "Watch Fb Rev" for firmware version 3.003.				
	Options	Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Reserved Home Axis Event Cndt Home Type 1 Home Type 0 Wdw Regis2 Wdw Regis1 Watch X Rev			
	Default	x x x x x x x x x 0 0 0 0 0 0 0			0 = False 1 = True
	Bit	15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0			
693	Interp SynchInput Bit zero of this parameter is used as the synchronization pulse for the Interpolator. This parameter is linked to Par 700 [Motn Posit Sync] for a Motion Servo Axis. It is linked to "Xsync Status" for a SynchronLink application. Bits 1 - 4 have been changes to "Reserved" for firmware version 2.004.				
	Options	Reserved Sync Pulse			
	Default	x 0			0 = False 1 = True
	Bit	31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0			
694	Motn Mx Pos Trvl Positive soft overtravel threshold for the Motion Servo Axis.	Default: 0 Min/Max: +/-2147483648		RW	32-bit Integer
695	Motn Mx Neg Trvl Negative soft overtravel threshold for the Motion Servo Axis.	Default: 0 Min/Max: +/-2147483648		RW	32-bit Integer

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No.	Name Description	Values	Linkable	Read-Write	Data Type																																																						
709	FdbkAxis RotFdbk Position feedback output to the Motion Planner for the Feedback Only Axis when configured in rotary mode.	Default: 0 Min/Max: 0/4294967295		RO	32-bit Integer																																																						
710 A	FdbkAxisUnwdFdbk Position unwind feedback output to the Motion Planner for the Feedback Only Axis when configured in rotary mode.	Default: 0 Min/Max: -/+32767		RO	16-bit Integer																																																						
711	MotnCnfgErrParam Identifies a parameter that is not configured properly for a motion connection to be accepted. The parameter identified could either have a wrong value or an incorrect link. When bit 0 "Config OK" of Par 690 [Motn Cnct Status] is set, then this parameter contains the parameter number of an incorrectly configured parameter. If more than one parameter is incorrectly configured, each is displayed in turn after the previously identified parameter is fixed. If there are no configuration problems relating to Motion, then this parameter contains a value of zero and the bit 0 "Config OK" of parameter 690 [Motn Cnct Status] is cleared.	Default: 0 Min/Max: 0/65535		RO	16-bit Integer																																																						
712	Write Mask Act Status of write access for DPI ports. When bit 15 "Security" is set, network security controls the write mask instead of Par 669 [Write Mask]. Note: This parameter was added for firmware version 3.001.	<table><tr><td>Options</td><td>Security</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>DriveLogix</td><td>Reserved</td><td>Int DPI Comm</td><td>Reserved</td><td>Aux DPI Conn</td><td>Ext DPI Conn</td><td>Local HIM</td><td>Terminal Blk</td></tr><tr><td>Default</td><td>0</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>x</td><td>0</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td><td></td></tr></table> 0 = False 1 = True				Options	Security	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	DriveLogix	Reserved	Int DPI Comm	Reserved	Aux DPI Conn	Ext DPI Conn	Local HIM	Terminal Blk	Default	0	x	x	x	x	x	x	x	x	0	x	0	x	0	0	0	0	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
Options	Security	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	DriveLogix	Reserved	Int DPI Comm	Reserved	Aux DPI Conn	Ext DPI Conn	Local HIM	Terminal Blk																																										
Default	0	x	x	x	x	x	x	x	x	0	x	0	x	0	0	0	0																																										
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																											
713	Logic Mask Act Indicates status of the logic mask for DPI ports. When bit 15 "Security" is set, network security controls the logic mask instead of Par 670 [Logic Mask]. Note: This parameter was added for firmware version 3.001.	<table><tr><td>Options</td><td>Security</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>DPI Port 5</td><td>Reserved</td><td>DPI Port 3</td><td>DPI Port 2</td><td>DPI Port 1</td><td>Digital In</td></tr><tr><td>Default</td><td>0</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True				Options	Security	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	DPI Port 5	Reserved	DPI Port 3	DPI Port 2	DPI Port 1	Digital In	Default	0	x	x	x	x	x	x	x	x	x	0	x	0	0	0	0	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			
Options	Security	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	DPI Port 5	Reserved	DPI Port 3	DPI Port 2	DPI Port 1	Digital In																																											
Default	0	x	x	x	x	x	x	x	x	x	0	x	0	0	0	0																																											
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																											
714	Port Mask Act Bits 0-5 indicate status for DPI port communication. Bit 15 "Security" indicates when security software controls the parameter. Note: This parameter was added for firmware version 3.001.	<table><tr><td>Options</td><td>Security</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>DPI Port 5</td><td>Reserved</td><td>DPI Port 3</td><td>DPI Port 2</td><td>DPI Port 1</td><td>Digital In</td></tr><tr><td>Default</td><td>0</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True				Options	Security	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	DPI Port 5	Reserved	DPI Port 3	DPI Port 2	DPI Port 1	Digital In	Default	0	x	x	x	x	x	x	x	x	x	0	x	0	0	0	0	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			
Options	Security	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	DPI Port 5	Reserved	DPI Port 3	DPI Port 2	DPI Port 1	Digital In																																											
Default	0	x	x	x	x	x	x	x	x	x	0	x	0	0	0	0																																											
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																											
717	PLL TP Select Phase Locked Loop test point selection. Note: This parameter was added for firmware version 3.001.	Default: 0 = "Zero" Options: 0 = "Zero" 1 = "Bg Once" 2 = "Position Err" 3 = "X to V" 4 = "Dt" 5 = "Gain" 6 = "Pos Intg" 7 = "Cal" 8 = "Epr Cal" 9 = "Num" 10 = "Denom" 11 = "Egr Ratio" 12 = "A Comp" 13 = "H Comp" 14 = "Pos Lpf Out" 15 = "Vel Lpf In" 16 = "Vel Lpf Out" 17 = "k1" 18 = "k2" 19 = "k3" 20 = "pi" 21 = "Ve Enable" 22 = "Ve In" 23 = "Ve Out" 24 = "Ve AnaPlsScl" 25 = "Ve Whl Accum" 26 = "Ve Frc AccmF" 27 = "Ve Frc AccmI" 28 = "Ve Dt"																																																									
718	PLL TP DataDInt Test point integer data. This data is meaningful only if the selection at Par 717 [PLL TP Select] is integer data. Note: This parameter was added for firmware version 3.001.	Default: 0 Min/Max: -/+2147483648		RO	32-bit Integer																																																						

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																																							
719	PLL TP DataReal Test point real data. This data is meaningful only if the selection at Par 717 [PLL TP Select] is not integer data. Note: This parameter was added for firmware version 3.001.	Default: 0.0 Min/Max: -/+2200000000.0000		RO	Real																																																																							
720	PLL Control Phase Locked Loop Control. Bit 0 "Vel FdFwd En" - When set, enables the velocity feed forward path. When cleared, the feed forward path is disabled. Bit 1 "Ext Vel In" - When set, enables external velocity feed forward through Par 728 [PLL Ext Spd Ref]. When cleared, velocity feed forward is derived from the input device position. Bit 2 "Trckng AComp" - When set, provides an element of acceleration compensation to the feed forward branch. This is not recommended for use with external inputs because of increased noise. Note: This parameter was added for firmware version 3.001. <table><tr><td>Options</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Trckng HComp</td><td>Trckng AComp</td><td>Ext Vel In</td><td>Vel FdFwd En</td><td></td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0 = False 1 = True</td></tr><tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td><td></td></tr></table>	Options																			Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Trckng HComp	Trckng AComp	Ext Vel In	Vel FdFwd En		Default	x	x	x	x	x	x	x	x	x	x	x	x	0	0	0	0	0 = False 1 = True	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0				
Options																																																																												
	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Trckng HComp	Trckng AComp	Ext Vel In	Vel FdFwd En																																																												
Default	x	x	x	x	x	x	x	x	x	x	x	x	0	0	0	0	0 = False 1 = True																																																											
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																												
721	PLL Position Ref Physical encoder position input. This parameter is normally linked directly to the encoder position of the device chosen for input to PLL. Note: This parameter was added for firmware version 3.001.	Default: 0.0 Min/Max: -/+2147483648	✓	RW	32-bit Integer																																																																							
722	PLL BandWidth Sets the internal bandwidth response of the PLL function in (rad/sec). The setting for very noisy mechanical systems could range from 1 to 10 (rad/s) while well-behaved high line count input devices could range upwards of 100 (rad/s). Higher bandwidths will quickly resolve tracking errors while the lower bandwidths will take longer to settle into a steady state. Some adjustment will be necessary to effect the best compromise between noise and tracking response. Note: This parameter was added for firmware version 3.001.	Default: 20.00 Min/Max: 0.00/8000.00 Units: rad/s	✓	RW	Real																																																																							
723	 PLL Rev Input Revolution of the input encoder. This parameter must be coordinated with Par 724 [PLL Rev Out] to resolve the gear-ratio between input revolutions and output (virtual) revolutions. The ratio of input to output revolutions can always be resolved into integer values and should be reduced to their lowest common factor. Note: This parameter was added for firmware version 3.001.	Default: 1 Min/Max: -/+ 1000000		RW	32-bit Integer																																																																							
724	 PLL Rev Output Revolution of the output encoder. This parameter must be coordinated with Par 723 [PLL Rev In] to resolve the gear-ratio between input revolutions and output (virtual) revolutions. The ratio of input to output revolutions can always be resolved into integer values and should be reduced to their lowest common factor. Note: This parameter was added for firmware version 3.001.	Default: 1 Min/Max: 1/2000000		RW	32-bit Integer																																																																							
725	 PLL EPR Input Edges Per Revolution of the physical input device. Use highest line count device possible to insure smoother PLL operation. Note: This parameter was added for firmware version 3.001.	Default: 1048576 Min/Max: 1/67108864 Units: EPR		RW	32-bit Integer																																																																							
726	 PLL EPR Output Edges Per Revolution of virtual the physical output device. Note: This parameter was added for firmware version 3.001.	Default: 1048576 Min/Max: 1/67108864 Units: EPR		RW	32-bit Integer																																																																							
727	 PLL VirtEncdrRPM Revolutions per minute (rpm) of the virtual output device. The value specified determines the 1 P.U. velocity at Par 734 [PLL Speed Out] and does not otherwise affect performance. Note: This parameter was added for firmware version 3.001.	Default: 1750.0 Min/Max: 1.0/30000.0 Units: rpm		RW	Real																																																																							
728	PLL Ext Spd Ref External Speed Reference. This is a velocity feed forward input. It is normally linked to an external velocity reference or the velocity output of the chosen physical encoder. Note: This parameter was added for firmware version 3.001.	Default: 0.0 Min/Max: -/+2200000000.0 Units: P.U.	✓	RW	Real																																																																							
729	PLL Ext SpdScale External Speed Scale. This parameter is used to properly scale the velocity feed forward. Adjust for zero average at Par 733 [PLL FiltPositOut] while running at moderate speed. Note: This parameter was added for firmware version 3.001.	Default: 1.0 Min/Max: -/+2200000000.0	✓	RW	Real																																																																							

No.	Name Description	Values	Linkable	Read-Write	Data Type
730	PLL LPFilter BW Low Pass Filter BandWidth (BW). The filter has two functions: - Basic noise reduction of input velocity. - Timed delay of input when feed forward is linked to an external master reference other than an input encoder. The filter BW should be set for best tracking which occurs when the filter output coincides with the Loop filter output of PLL. Usually that means setting its BW to the bandwidth of the master reference drive. Note: This parameter was added for firmware version 3.001.	Default: 50.00 Min/Max: 0.00/8000.00 Units: rad/s	✓	RW	Real
731	PLL Posit Out Phased Locked Loop position output. This signal is precisely in phase with the input physical device. A link should be made to it from the local drive auxiliary position input. (The local drive is the one implementing PLL.) Note: This parameter was added for firmware version 3.001.	Default: 0 Min/Max: -/+2147483648		RO	32-bit Integer
732	PLL Posit OutAdv Phased Locked Loop position advanced output. This signal is one position sample in advance of Par 731 [PLL Posit Out]. A link is normally made to this parameter from SynchLink. Note: This parameter was added for firmware version 3.001.	Default: 0 Min/Max: -/+2147483648		RO	32-bit Integer
733	PLL FiltPositOut Phased Locked Loop internal low pass filter output. This parameter is normally used to properly scale an external velocity reference. See description of Par 729 [PLL Ext SpdScale]. Note: This parameter was added for firmware version 3.001.	Default: 0.0 Min/Max: -/+2200000000.0 Units: P.U.	✓	RW	Real
734	PLL Speed Out Phased Locked Loop velocity output. This signal is used as a velocity feed forward. It is precisely in phase with the physical input device. A link should be made to it from one of the inputs on the local drive. (The local drive is the one implementing PLL.) The 1 P.U. rpm of this parameter is set by Par 727 [PLL VirtEncdrRPM]. Note: This parameter was added for firmware version 3.001.	Default: 0.0 Min/Max: -/+2200000000.0 Units: P.U.	✓	RW	Real
735	PLL SpeedOut Adv Phase Locked Loop velocity advanced output. This signal is one velocity reference sample in advance of Par 734 [PLL Speed Out]. A link is normally made to this parameter from SynchLink. (Velocity reference is performed in the same task as the position regulator.) Note: This parameter was added for firmware version 3.001.	Default: 0.0 Min/Max: -/+2200000000.0 Units: P.U.	✓	RW	Real
737	Posit TP Select Enter or write a value to select position regulator data displayed in Par 738 [PositTP DataInt] and Par 739 [PositTP DataReal].	Default: 0 = "Zero" Options: 0 = "Zero" 9 = "Limiter Out" 1 = "del Xos Vout" 10 = "Ref EGR In" 2 = "del Xcmd" 11 = "OffsetSpdLim" 3 = "del Act Load" 12 = "Pt-Pt SpdLim" 4 = "del Act Mtr" 13 = "Sec per Edge" 5 = "Integ Error" 14 = "Edge per Sec" 6 = "Xprop Out" 15 = "Ratio Guess" 7 = "Fdbk Sel Alt" 16 = "Sync Count" 8 = "PreLim Xvout"			
738	PositTP DataInt Displays the integer data selected by Par 737 [Posit TP Select]. This display should only be used if the selected value is Integer data.	Default: 0 Min/Max: -/+2147483648		RO	32-bit Integer
739	PositTP DataReal Displays the real data selected by Par 737 [Posit TP Select]. This display should only be used if the selected value is Real data.	Default: 0.0 Min/Max: -/+8.0 P.U.		RO	Real

No.	Name Description	Values	Linkable	Read-Write	Data Type
740	Position Control Set bits to enable various position control functions. - Setting bit 1 "Speed Out En" enables position regulator output at Par 318 [Posit Spd Output]. - Setting bit 2 "Integ En" enables integrator operation. Resetting it resets the integrator. - Setting bit 3 "Integ Hold" holds integrator in present state. - Setting bit 4 "X Offset Pol" reverses polarity of offset parameters. - Setting bit 5 "XOffset Ref" permits changing the value of position offsets without changing actual position. Resetting it makes the position offset relative to the re-referenced value or the latched value upon enable if re-reference was not performed. - Bit 6 "AbsPositCtrl" may be set when a multi-turn, absolute feedback device is used for Point-to-Point positioning. Activating this bit will ReRef the position reference to the absolute feedback when position control is activated in bit 7 "Regulator On" of Par 741 [Position Status]. If the value at Par 758 [Pt-Pt Posit Ref] is different than the feedback in Par 763 [Position Actual], a position error will exist and the machine will move to position when activated. When bit 6 "AbsPositCtrl" is high, bit 9 "SetZeroPosit" of Par 740 [Position Control] may be used to set the zero "home" position accumulators. This can only be used when the drive is not in run and Par 740 [Position Control] bit 6 = 1 (true). - Setting bit 7 "AbsoluteMode" puts the position regulator in Absolute mode. When using the Homing function while in Absolute mode, the value in Par 758 [Pt-Pt Posit Ref] must be set relative to the value in Par 763 [Position Actual] after homing is complete. For example: When homing is complete Par 763 [Position Actual] = 1000 counts. If you want to move to an absolute position of 2000 counts relative to the home switch, you must enter a value of 3000 counts into Par 758 [Pt-Pt Posit Ref] (i.e., 1000 + 2000 = 3000). If you want to move back to the home switch, using the same value in Par 763 [Position Actual] after homing (1000), you must enter a value of 1000 into Par 758 [Pt-Pt Position Ref] (i.e., 0 + 1000 = 1000). - Setting bit 8 "Xzero Preset" presets Par 744 [PositRef EGR Out], Par 747 [Position Cmmnd], Par 763 [Position Actual] and Par 765 [Posit Actl Load] with the value in Par 762 [Position Fdbk] minus Par 757 [Abs Posit Offset] upon drive enable. - Setting bit 10 "Pt-Pt ReRef" enables setting or changing Par 758 [Pt-Pt Posit Ref] without changing the actual position. - Setting bit 16 "X Watch1 En" enables position Watch 1. Resetting it clears Par 741 [Position Status] bit 8 "Posit Watch1". - Setting bit 17 "X Watch1 Dir" causes Position Watch 1 output to be set when Par 763 [Position Actual] is greater than Par 780 [PositDct1 Stpt]. Re-setting bit 17 causes Position Watch 1 output to be set when Par 763 [Position Actual] is less than Par 780 [PositDct1 Stpt]. - Setting bit 18 "X Watch2 En" enables position Watch 2. Resetting it clears Par 741 [Position Status] bit 9 "Posit Watch2". - Setting bit 19 "X Watch2 Dir" causes Position Watch 2 output to be set when Par 763 [Position Actual] is greater than Par 781 [PositDct2 Stpt]. Re-setting bit 19 causes Position Watch 2 output to be set when Par 763 [Position Actual] is less than Par 781 [PositDct2 Stpt]. - Setting bit 20 "Pt-Pt RampStop" enables the Ramp to Stop function for point-to-point positioning. When reset and the stop command is given during a move, the drive will stop at 0 ramp time. When set and the stop command is given during a move, the drive will ramp to zero at Par 760 [Pt-Pt Decel Time]. Note: Coast Stop or Removing Enable always causes a Coast to Stop function. - Bit 24 "Find Home" - when this bit is on and the drive is started, a homing sequence is initiated. - Bit 25 "Pos Redefine" - when this bit is set the position will be set to zero. - Bit 26 "Home Dir" - when this bit is set the homing direction will be opposite of the Home Speed commanded in Par 1122 [Home Speed]. - Bit 27 "Return Home" - when this bit is set the homing direction will be opposite of the Home Speed commanded in Par 1122 [Home Speed]. Note: The position reference will not change, but Par 763 [Posit Load Fdbk] will return to zero. The Position reference should also be redefined to zero to synchronize the position with the command. This can be useful for returning to Home after a jog type operation - Bit 28 "Home Switch" - when this bit is set the Homing sequence will look for the home switch to make a transition from it's current state when the homing sequence is started. Do not set with bit 29 "Home Marker". - Bit 29 "Home Marker" - when set, the Homing Sequence will look for the Marker pulse. When the marker pulse is found the drive will decelerate and return to the position where the marker was found. Do not set with bit 28 "Home Switch". Note: Bits 24 - 29 were added for future use - not active for use with firmware version 3.001 and above.				
	Options				
	Reserved	Reserved	Home Marker	Home Switch	Return Home
	Reserved	Home Dir	Pos Redefine	Find Home	Reserved
	Reserved	Reserved	Reserved	Reserved	Reserved
	Pt-Pt RampStop	X Watch2 Dir	X Watch2 En	X Watch1 Dir	X Watch1 En
	1	0	1	0	0
	15	14	13	12	11
	BschndxStpRv	Bschndx Prst	Bschndx Rev	Bschndx Step	Bschndx Enbl
	0	0	0	0	0
	Pt-Pt ReRef	SetZeroPosit	Xzero Preset	AbsoluteMode	AbsPositCtrl
	0	0	1	0	0
	10	9	8	7	6
	XOff ReRef	X Offset Pol	Integ Hold	Integ En	Speed Out En
	0	0	0	0	1
	3	2	1	0	Reserved
	0				
Default	x	x	0	0	0
Bit	31	30	29	28	27
	26	25	24	23	22
	21	20	19	18	17
	16	15	14	13	12
	11	10	9	8	7
	6	5	4	3	2
	1	0			

0 = False
1 = True

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
741	Position Status Indicates status of position control algorithms. • Bit 0 "X IGain LLim" indicates the position integrator is at the low limit. • Bit 1 "X IGain HLim" indicates the position integrator is at the high limit. • Bit 2 "X Spd LLim" indicates the position regulator output at the low limit. • Bit 3 "X Spd HLim" indicates the position regulator output is at the high limit. • Bit 4 "PtPtRRef Act" (TBD) • Bit 5 "XOffRRef Act" (TBD) • Bit 7 "Regulator On" indicates position regulator is active. • Bit 8 "Posit Watch1" indicates Position Watch 1 has detected motor position equal to its setpoint, from the proper direction. • Bit 9 "Posit Watch2" indicates Position Watch 2 has detected motor position equal to its setpoint, from the proper direction. • Bit 10 "In Position" indicates Par 769 [Position Error] is within the position deadband specified by Par 782 [In Posit BW]. • Bit 13 "HomeRequired" - Set when the "Find Home" bit is set in Par 740 [Position Control] and the drive is waiting on a Start command. • Bit 14 "Homing" - Set when the drive is running the Homing Sequence. • Bit 15 "Homed" - Set when the Homing Sequence has completed. Note: Bits 13 - 15 were added for future use - not active for use with firmware version 3.001 and above.	<table><tr><td>Options</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></t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No.	Name Description	Values	Linkable	Read-Write	Data Type
754	Posit Offset 2 Supplies another position reference offset, which is summed with Par 753 [Posit Offset 1]. Used to trim the phase of the selected position reference. Position offset will be internally rate limited to a velocity set by Par 755 [Posit Offset Spd].	Default: 0 Min/Max: -/+2147483648	✓	RW	32-bit Integer
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.	Default: 176.4000 Min/Max: -/+14112.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.	✓	RW	Real
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 a feed forward into speed reference to secure minimal position error during changes to offset.	Default: 0.0000 Min/Max: -/+14112.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RO	Real
757	Abs Posit Offset Provides an offset to absolute position. Setting Par 740 [Position Control], bit 8 "Xzero Preset" presets Par 744 [PositRef EGR Out], Par 747 [Position Cmmd], Par 763 [Position Actual] and Par 765 [Posit Actl Load] with the value in Par 762 [Position Fdbk] minus Par 757 [Abs Posit Offset] upon drive enable.	Default: 0 Min/Max: -/+2147483648	✓	RW	32-bit Integer
758	Pt-Pt Posit Ref Provides position reference to the point to point position regulator, when the value in Par 742 [Position Ref Sel] = 2 "Pt to Pt". 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 Par 740 [Position Control], bit 10 "Pt-Pt ReRef". Position moves may be made within the limits of plus or minus 31 bits. Point-to-point reference may be changed, and even reversed, during a move.	Default: 0 Min/Max: -/+2147483648	✓	RW	32-bit Integer
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.	Default: 10.0000 Min/Max: 0.1000/6553.5000 Units: s	✓	RW	Real
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.	Default: 10.0000 Min/Max: 0.1000/6553.5000 Units: s	✓	RW	Real
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 from 5 to 100 (rad/sec). A zero value will bypass the filter. Tail-out is influenced mainly by Par 768 [Posit Reg P Gain].	Default: 25.0000 Min/Max: 0.0000/500.0000 Units: rad/s	✓	RW	Real
762	Position Fdbk Displays the accumulated pulse count of the selected position feedback. Select a position feedback device with Par 777 [PositionFdbk Sel].	Default: 0 Min/Max: -/+2147483648		RO	32-bit Integer
763	Position Actual Displays the accumulated motor position as a 32-bit integer. It tracks Par 762 [Position Fdbk]. When the position regulator is not enabled, this parameter is initialized to Par 762 [Position Fdbk] or to the selected position reference as determined by Par 740 [Position Control], bit 6 "AbsPositCtrl".	Default: 0 Min/Max: -/+2147483648		RO	32-bit Integer
764	Posit Load Fdbk Tracks the load position, as a 32-bit integer. When a gear box connects the load to the motor, Par 766 [Posit FB EGR Mul] and Par 767 [Posit FB EGR Div] must be set to account for the gear ratio. Set Par 766 [Posit FB EGR Mul] equal to Par 767 [Posit FB EGR Div] if the load is directly connected to the motor.	Default: 0 Min/Max: -/+2147483648	✓	RW	32-bit Integer
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 Par 762 [Position Fdbk] or to the selected position reference as determined by Par 740 [Position Control], bit 6 "AbsPositCtrl".	Default: 0 Mi/Max: -/+2147483648		RO	32-bit Integer
766	Posit FB EGR Mul A 32-bit integer in the numerator of the load EGR function. It is multiplied by Par 764 [Posit Load Fdbk] and divided by Par 767 [Posit FB EGR Div] to reflect the load pulse count to the motor (effectively removing the gear box ratio). The accumulated position values Par 763 [Position Actual] and Par 765 [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: 1 Min/Max: -/+1000000	✓	RW	32-bit Integer
767	Posit FB EGR Div This is a 32-bit integer that forms the denominator of the load EGR function.	Default: 1 Min/Max: 1/2000000		RW	32-bit Integer

No.	Name Description	Values	Linkable	Read-Write	Data Type
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 P.U. 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.	Default: 4.0000 Min/Max: 0.0000/200.0000 Units: rad/s	✓	RW	Real
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: 0 Min/Max: -/+2147483648		RO	32-bit Integer
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 Par 768 [PositReg P Gain]. An integral gain of 25 means that a per unit position error of 0.1 sec will effect a 2.5 P.U. speed change per sec. A typical maximum value is $\frac{1}{3} \times [\text{PositReg P Gain}]^2$. Note: 1 per unit position is the distance traveled in 1 sec. at base motor speed.	Default: 4.0000 Min/Max: 0.0000/1000.0000 Units: /S ²	✓	RW	Real
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: 0.0000 Min/Max: 0.0000/0.2500	✓	RW	Real
772	XReg Integ LoLim The negative limit of the position regulator integral gain.	Default: -176.4000 Min/Max: -14112.0000/0.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.	✓	RW	Real
773	XReg Integ HiLim The positive limit of the position regulator integral gain.	Default: 176.4000 Min/Max: 0.0000/14112.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.	✓	RW	Real
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.	Default: 0 Min/Max: -/+14112.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.		RO	Real
775	XReg Spd LoLim The negative speed limit of total position regulator output. Point to point mode uses this parameter to set the reverse speed reference.	Default: -176.4000 Min/Max: -14112.0000/0.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.	✓	RW	Real
776	XReg Spd HiLim The positive speed limit of total position regulator output. Point to point mode uses this parameter to set the forward speed reference.	Default: 176.4000 Min/Max: 0.0000/14112.0000 Units: rpm Scale: Par 4 [Motor NP RPM] = 1.0 P.U.	✓	RW	Real
777	 PositionFdbk Sel Enter a value to select the position control feedback device. The feedback device used for position control may be an independent selection from the motor speed control feedback device in Par 222 [Mtr Fdbk Sel Pri] or Par 223 [Mtr Fdbk Sel Alt]. If the position feedback is to be the same as the motor feedback, select option 3 "Motor Fdbk". This option will set the selected feedback of Par 222 [Motor Fdbk Sel Pri] or Par 223 [Mtr Fdbk Sel Alt] as the position regulators position feedback. Notes: Options 5 and 6 are only available when compatible feedback option card is installed. This parameter was changed to non-linkable for firmware version 3.001.	Default: 0 = "Encoder 0" Options: 0 = "Encoder 0" 7 = "SL DirIntRx0" 1 = "Encoder 1" 8 = "SL DirIntRx1" 2 = "Reserved" 9 = "SL DirIntRx2" 3 = "Mtr Fdbk Pri" 10 = "SL DirIntRx3" 4 = "Motor Sim" 5 = "FB Opt Port0" 6 = "FB Opt Port1"			

[illegible]

No.	Name Description	Values	Linkable	Read-Write	Data Type
788	Xsync In 1 32-bit integer input of the Sync Generator. Latched to Par 789 [Xsync Out 1]. Link any 32-bit integer parameter to this input parameter. Note: This parameter was changed to an unsigned integer data type and linkable to parameters that are either real or integer values for firmware version 4.001.	Default: 0 Min/Max: 0/4294967295	✓	RW	32-bit Integer
789	Xsync Out 1 Sync Generator 32-bit output register. Latched to Par 788 [Xsync In 1] every time bit 0 "Sync Pulse" of Par 786 [Xsync Status] is set. Note: This parameter was changed to an unsigned integer data type and linkable to parameters that are either real or integer values for firmware version 4.001.	Default: 0 Min/Max: 0/4294967295		RO	32-bit Integer
790	Xsync In 2 32-bit integer input of the Sync Generator. Latched to Par 791 [Xsync Out 2]. Link any 32-bit integer parameter to this input parameter. Note: This parameter was changed to an unsigned integer data type and linkable to parameters that are either real or integer values for firmware version 4.001.	Default: 0 Min/Max: 0/4294967295	✓	RW	32-bit Integer
791	Xsync Out 2 Sync Generator 32-bit output register. Latched to Par 790 [Xsync In 2] every time bit 0 "Sync Pulse" of Par 786 [Xsync Status] is set. Note: This parameter was changed to an unsigned integer data type and linkable to parameters that are either real or integer values for firmware version 4.001.	Default: 0 Min/Max: 0/4294967295		RO	32-bit Integer
792	Xsync Out 2 Dly Displays data of Par 791 [Xsync Out 2] from the last sync period. Note: This parameter was changed to an unsigned integer data type and linkable to parameters that are either real or integer values for firmware version 4.001.	Default: 0 Min/Max: 0/4294967295		RO	32-bit Integer
793	Xsync In 3 32-bit integer input of the Sync Generator. Latched to Par 794 [Xsync Out 3]. Link any 32-bit integer parameter to this input parameter. Note: This parameter was changed to an unsigned integer data type and linkable to parameters that are either real or integer values for firmware version 4.001.	Default: 0 Min/Max: 0/4294967295	✓	RW	32-bit Integer
794	Xsync Out 3 Sync Generator 32-bit output register. Latched to Par 793 [Xsync In 3] every time bit 0 "Sync Pulse" of Par 786 [Xsync Status] is set. Note: This parameter was changed to an unsigned integer data type and linkable to parameters that are either real or integer values for firmware version 4.001.	Default: 0 Min/Max: 0/4294967295	✓	RW	32-bit Integer
795	Xsync Out 3 Dly Displays data of Par 794 [Xsync Out 3] from the last sync period. Note: This parameter was changed to an unsigned integer data type and linkable to parameters that are either real or integer values for firmware version 4.001.	Default: 0 Min/Max: 0/4294967295	✓	RW	32-bit Integer
796	 Posit Gear Ratio Sets the load side gear ratio for position control. Adjust this value when the selection of Par 777 [PositionFdbk Sel] is not 3 "Motor Fdbk". Calculation: Motor Encoder (Rpm) / Load Encoder (Rpm) Note: This parameter was changed to non-linkable for firmware version 3.001. This parameter was changed to be linkable for firmware version 3.004.	Default: 1.00 Min/Max: 0.00/9999.00	✓	RW	Real
797	BasicIdx Step Sets the amount added to or subtracted from Par 799 [BasicIdx Output] on a rising edge of Par 740 [Position Control], bit 12 "BscIdx Step". Note that this value can be positive or negative.	Default: 0 Min/Max: -/+2147483648	✓	RW	32-bit Integer
798	BasicIdx Preset Sets the value to be moved into Par 799 [BasicIdx Output] when Par 740 [Position Control], bit 11 "BscIdx Enbl" and bit 14 "BscIdx Prst" are both on.	Default: 0 Min/Max: -/+2147483648	✓	RW	32-bit Integer
799	 BasicIdx Output Displays the output of the Position Index function.	Default: 0 Min/Max: -/+2147483648		RO	32-bit Integer
800	Anlg In1 Data Displays the scaled final value for Analog Input 1.	Default: 0.0000 Min/Max: -/+2200000000.0000		RO	Real

No.	Name Description	Values	Linkable	Read-Write	Data Type
801	Anlg In1 Value Displays the actual input value at Analog Input 1. Analog Input 1 may be configured for voltage or current input signal. For proper selection of the input signal, the DIP switch S-5 and Par 821 [Analog I/O Units] must be set to match. Par 801 [Anlg In1 Value] is multiplied by the value in Par 802 [Anlg In1 Scale] to produce the input to the lead lag filter function. Type of Input: Configurable, Voltage or Current Polarity: Bi-Polar Resolution: 14 bit (-8191 to +8191) DIP Switch Analog I/O Units AI 1 Voltage S5-2 = Open Par 821 Bit 0 = 0 (False) AI 1 Current S5-2 = Closed Par 821 Bit 0 = 1 (True)	Default: 0.0000 Min/Max: -/+20.0000 Units: V/mA		RO	Real
802	Anlg In1 Scale Scales the range of Analog Input 1 to the range of Par 800 [Anlg In1 Data]. Enter the units you want per volt or mA. For example: If Par 801 [Anlg In1 Value] = 0 - 10V and you enter "6" in this parameter, Par 800 [Anlg In1 Data] will equal 0 - 60V. Par 801 * Par 802 = Par 800.	Default: 0.1000 Min/Max: -/+2200000000.0000 Units: /V or /mA	✓	RW	Real
803	Anlg In1 Offset Applies an offset to Analog Input 1. Use the offset to correct for zero signal errors or to create an offset to the actual input. The output of the A/D converter is summed with this parameter to produce Par 801 [Anlg In1 Value].	Default: 0.0000 Min/Max: -/+20.0000 Units: V/mA	✓	RW	Real
804	AI 1 Filt Gain Provides the Lead term for the Analog Input 1 filter.	Default: 1.0000 Min/Max: -/+5.0000	✓	RW	Real
805	Anlg In1 Filt BW Provides the Lag term for the Analog Input 1 filter. Light Heavy Par 804 [AI 1 Filt Gain] 0.25 0.1 Par 805 [Anlg In1 Filt BW] 50 10	Default: 0.0000 Min/Max: 0.0000/3760.0000 Units: rad/s	✓	RW	Real
806	Anlg In2 Data Displays the scaled final value for Analog Input 2.	Default: 0.0000 Min/Max: -/+2200000000.0000		RO	Real
807	Anlg In2 Value Displays the actual input value at Analog Input 2. Analog Input 2 may be configured for voltage or current input signal. For proper selection of the input signal, the DIP switch S-5 and Par 821 [Analog I/O Units] must be set to match. Par 807 [Anlg In2 Value] is multiplied by Par 808 [Anlg In2 Scale] produce the input to the lead lag filter function. Type of Input: Configurable, Voltage or Current Polarity: Bi-Polar Resolution: 14 bit (-8191 to +8191) DIP Switch Analog I/O Units AI 2 Voltage S5-1 = Open Par 821 Bit 1 = 0 (False) AI 2 Current S5-1 = Closed Par 821 Bit 1 = 1 (True)	Default: 0.0000 Min/Max: -/+20.0000 Units: V/mA		RO	Real
808	Anlg In2 Scale Scales the range of Analog Input 2 to the range of Par 806 [Anlg In2 Data]. Enter the units you want per volt or mA. For example: If Par 807 [Anlg In2 Value] = 0 - 10V and you enter "6" in this parameter, Par 806 [Anlg In2 Data] will equal 0 - 60V. Par 807 * Par 808 = Par 806.	Default: 0.1000 Min/Max: -/+2200000000.0000 Units: /V or /mA	✓	RW	Real
809	Anlg In2 Offset Applies an offset to Analog Input 2. Use the offset to correct for zero signal errors or to create an offset to the actual input. The output of the A/D converter is summed with this parameter to produce Par 807 [Anlg In2 Value].	Default: 0.0000 Min/Max: -/+20.0000 Units: V/mA	✓	RW	Real
810	AI 2 Filt Gain Provides the Lead term for the Analog Input 2 filter.	Default: 1.0000 Min/Max: -/+5.0000	✓	RW	Real



No.	Name Description	Values	Linkable	Read-Write	Data Type																																																																																																			
823	DigIn Debounce Sets the amount of de-bounce (filtering) for each digital input. This is used to remove unwanted on/off cycling (chatter) on the digital inputs caused by relay bounce. Each digital input de-bounce is configured separately from 0.5ms to 8.0ms. The bit selections are cumulative for each digital input (1 - 6). Example: bit 4 & 2 & 1 on = 5.5ms of de-bounce for digital input 1.	<table><tr><td>Options</td><td>Reserved</td><td>D16 8.0ms</td><td>D16 4.0ms</td><td>D16 2.0ms</td><td>D16 1.0ms</td><td>D16 0.5ms</td><td>D15 8.0ms</td><td>D15 4.0ms</td><td>D15 2.0ms</td><td>D15 1.0ms</td><td>D15 0.5ms</td><td>D14 8.0ms</td><td>D14 4.0ms</td><td>D14 2.0ms</td><td>D14 1.0ms</td><td>D14 0.5ms</td><td>D13 8.0ms</td><td>D13 4.0ms</td><td>D13 2.0ms</td><td>D13 1.0ms</td><td>D13 0.5ms</td><td>D12 8.0ms</td><td>D12 4.0ms</td><td>D12 2.0ms</td><td>D12 1.0ms</td><td>D12 0.5ms</td><td>D11 8.0ms</td><td>D11 4.0ms</td><td>D11 2.0ms</td><td>D11 1.0ms</td><td>D11 0.5ms</td><td>Reserved</td></tr><tr><td>Default</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>x</td></tr><tr><td>Bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table>	Options	Reserved	D16 8.0ms	D16 4.0ms	D16 2.0ms	D16 1.0ms	D16 0.5ms	D15 8.0ms	D15 4.0ms	D15 2.0ms	D15 1.0ms	D15 0.5ms	D14 8.0ms	D14 4.0ms	D14 2.0ms	D14 1.0ms	D14 0.5ms	D13 8.0ms	D13 4.0ms	D13 2.0ms	D13 1.0ms	D13 0.5ms	D12 8.0ms	D12 4.0ms	D12 2.0ms	D12 1.0ms	D12 0.5ms	D11 8.0ms	D11 4.0ms	D11 2.0ms	D11 1.0ms	D11 0.5ms	Reserved	Default	x	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	x	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			0 = False 1 = True
Options	Reserved	D16 8.0ms	D16 4.0ms	D16 2.0ms	D16 1.0ms	D16 0.5ms	D15 8.0ms	D15 4.0ms	D15 2.0ms	D15 1.0ms	D15 0.5ms	D14 8.0ms	D14 4.0ms	D14 2.0ms	D14 1.0ms	D14 0.5ms	D13 8.0ms	D13 4.0ms	D13 2.0ms	D13 1.0ms	D13 0.5ms	D12 8.0ms	D12 4.0ms	D12 2.0ms	D12 1.0ms	D12 0.5ms	D11 8.0ms	D11 4.0ms	D11 2.0ms	D11 1.0ms	D11 0.5ms	Reserved																																																																								
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Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																								
824	Local I/O Status Displays the status of the local I/O.	<table><tr><td>Options</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Relay Out 3</td><td>DigOut 2</td><td>DigOut 1</td><td>SafeOffInput</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>DigIn 6</td><td>DigIn 5</td><td>DigIn 4</td><td>DigIn 3</td><td>DigIn 2</td><td>DigIn 1</td><td>Hw Enbl Bypss</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table>	Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Relay Out 3	DigOut 2	DigOut 1	SafeOffInput	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	DigIn 6	DigIn 5	DigIn 4	DigIn 3	DigIn 2	DigIn 1	Hw Enbl Bypss	Default	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	0	0	x	x	x	x	x	x	x	x	0	0	0	0	0	0	0	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			0 = False 1 = True
Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Relay Out 3	DigOut 2	DigOut 1	SafeOffInput	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	DigIn 6	DigIn 5	DigIn 4	DigIn 3	DigIn 2	DigIn 1	Hw Enbl Bypss																																																																								
Default	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	0	0	x	x	x	x	x	x	x	x	0	0	0	0	0	0	0																																																																								
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825	Dig In1 Sel Enter a value to select the function of digital input 1. Selecting options 34 "UserGen Sel0" - 37 "UserGen Sel3" sends Binary Coded Decimal (BCD) data to Par 1022 [Sel Switch Ctrl] as follows: <table><tr><th>Selection</th><th>Sends Input to this bit in Par 1022</th></tr><tr><td>34 "UserGen Sel0"</td><td>Bit 1 "Sel Switch 00"</td></tr><tr><td>35 "UserGen Sel1"</td><td>Bit 2 "Sel Switch 01"</td></tr><tr><td>36 "UserGen Sel2"</td><td>Bit 3 "Sel Switch 02"</td></tr><tr><td>37 "UserGen Sel3"</td><td>Bit 4 "Sel Switch 03"</td></tr></table> Note: For all Stop Functions: Low = Stop, High = OK to Run, In "Norm Stop-CF" Low = Normal Stop and Clear Fault. Note: When Using the MAH instruction in DriveLogix to "home" an axis and Digital Input 1 is used as the homing switch, this parameter must be set to 0 "Not Used". When the MAH instruction is executed, this parameter will be changed to option 31 "Regis 1 Ltch", to indicate that the drive registration has latched the encoder position when the switch was activated. Note: Option 38 "ExtFault Inv" was added for firmware version 2.004. Option 39 "Home Switch" was added for firmware version 3.001. Values 41 and 42 were added for firmware version 4.001. Note: Option 20 "Accel Decel2" is not functional.	Selection	Sends Input to this bit in Par 1022	34 "UserGen Sel0"	Bit 1 "Sel Switch 00"	35 "UserGen Sel1"	Bit 2 "Sel Switch 01"	36 "UserGen Sel2"	Bit 3 "Sel Switch 02"	37 "UserGen Sel3"	Bit 4 "Sel Switch 03"	Default: 0 = "Not Used" Options: 0 = "Not Used" 21 = "Indx Step" 1 = "Enable" 22 = "Indx StepRev" 2 = "Clear Faults" 23 = "MOP Inc" 3 = "Ext Fault" 24 = "MOP Dec" 4 = "Norm Stop-CF" 25 = "MOP Reset" 5 = "Start" 26 = "PI Trim En" 6 = "Reverse" 27 = "PI Trim Hold" 7 = "Run" 28 = "PI Trim Rst" 8 = "Reserved" 29 = "Trend Trig" 9 = "Reserved" 30 = "PreCharge En" 10 = "Jog 1" 31 = "Regis 1 Ltch" 11 = "Reserved" 32 = "+Hrd OvrTrvl" 12 = "Reserved" 33 = "-Hrd OvrTrvl" 13 = "Jog 2" 34 = "UserGen Sel0" 14 = "Normal Stop" 35 = "UserGen Sel1" 15 = "Spd Ref Sel0" 36 = "UserGen Sel2" 16 = "Spd Ref Sel1" 37 = "UserGen Sel3" 17 = "Spd Ref Sel2" 38 = "ExtFault Inv" 18 = "CurLim Stop" 39 = "Home Switch" 19 = "Coast Stop" 41 = "Find Home" 20 = "Accel Decel2" 42 = "Return Home"																																																																																												
Selection	Sends Input to this bit in Par 1022																																																																																																							
34 "UserGen Sel0"	Bit 1 "Sel Switch 00"																																																																																																							
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37 "UserGen Sel3"	Bit 4 "Sel Switch 03"																																																																																																							

No.	Name Description	Values	Linkable	Read-Write	Data Type
826	Dig In2 Sel  Enter a value to select the function of digital input 2. Refer to Par 825 for a description of options 34 "UserGen Sel0" - 37 "UserGen Sel3". Note: For all Stop Functions: Low = Stop, High = OK to Run, In "Norm Stop-CF" Low = Normal Stop and Clear Fault. Note: Notes: Option 38 "ExtFault Inv" was added for firmware version 2.004. Option 39 "Home Switch" was added for firmware version 3.001. Values 41 and 42 were added for firmware version 4.001.	Default: 0 = "Not Used" Options: 0 = "Not Used" 21 = "Indx Step" 1 = "Enable" 22 = "Indx StepRev" 2 = "Clear Faults" 23 = "MOP Inc" 3 = "Ext Fault" 24 = "MOP Dec" 4 = "Norm Stop-CF" 25 = "MOP Reset" 5 = "Start" 26 = "PI Trim En" 6 = "Reverse" 27 = "PI Trim Hold" 7 = "Run" 28 = "PI Trim Rst" 8 = "Reserved" 29 = "Trend Trig" 9 = "Reserved" 30 = "PreCharge En" 10 = "Jog 1" 31 = "Regis 2 Lrch" 11 = "Reserved" 32 = "+Hrd OvrTrvl" 12 = "Reserved" 33 = "-Hrd OvrTrvl" 13 = "Jog 2" 34 = "UserGen Sel0" 14 = "Normal Stop" 35 = "UserGen Sel1" 15 = "Spd Ref Sel0" 36 = "UserGen Sel2" 16 = "Spd Ref Sel1" 37 = "UserGen Sel3" 17 = "Spd Ref Sel2" 38 = "ExtFault Inv" 18 = "CurLim Stop" 39 = "Home Switch" 19 = "Coast Stop" 41 = "Find Home" 20 = "Accel Decel2" 42 = "Return Home"			
827	Dig In3 Sel	Default: 0 = "Not Used"			
828	Dig In4 Sel	Options: 0 = "Not Used" 21 = "Indx Step"			
829	Dig In5 Sel	1 = "Enable" ⁽¹⁾ 22 = "Indx StepRev"			
830	Dig In6 Sel	2 = "Clear Faults" 23 = "MOP Inc"			
	Enter a value to select the function of digital input 6. Refer to Par 825 for a description of options 34 "UserGen Sel0" - 37 "UserGen Sel3". Note: For all Stop Functions: Low = Stop, High = OK to Run, In "Norm Stop-CF" Low = Normal Stop and Clear Fault. Note: Notes: Option 38 "ExtFault Inv" was added for firmware version 2.004. Option 39 "Home Switch" was added for firmware version 3.001. Values 41 and 42 were added and value 39 was deleted for firmware version 4.001. (1) Opening an "Enable" input will cause the motor to coast-to-stop, ignoring any programmed Stop modes.	3 = "Ext Fault" 24 = "MOP Dec" 4 = "Norm Stop-CF" 25 = "MOP Reset" 5 = "Start" 26 = "PI Trim En" 6 = "Reverse" 27 = "PI Trim Hold" 7 = "Run" 28 = "PI Trim Rst" 8 = "Reserved" 29 = "Trend Trig" 9 = "Reserved" 30 = "PreCharge En" 10 = "Jog 1" 31 = "Reserved" 11 = "Reserved" 32 = "+Hrd OvrTrvl" 12 = "Reserved" 33 = "-Hrd OvrTrvl" 13 = "Jog 2" 34 = "UserGen Sel0" 14 = "Normal Stop" 35 = "UserGen Sel1" 15 = "Spd Ref Sel0" 36 = "UserGen Sel2" 16 = "Spd Ref Sel1" 37 = "UserGen Sel3" 17 = "Spd Ref Sel2" 38 = "ExtFault Inv" 18 = "CurLim Stop" 39 = "Reserved" 19 = "Coast Stop" 41 = "Find Home" 20 = "Accel Decel2" 42 = "Return Home"			

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																								
831	Anlg Out1 Sel Identifies the signal used on Analog Output 1. If the desired signal is not available in the selection list, choose option 0 - "User Select" and link with Par 832 [Anlg Out1 DInt] or Par 833 [Anlg Out1 Real] to select the desired parameter for output. The following table provides the parameter that corresponds to the option selected in this parameter. <table><tr><th>Option</th><th>Parameter</th><th>Option</th><th>Parameter</th></tr><tr><td>1 "Output Freq"</td><td>310 [Output Freq]</td><td>16 "MtrTrqCurRef"</td><td>305 [Mtr Trq Curr Ref]</td></tr><tr><td>2 "Sel Spd Ref"</td><td>40 [Selected Spd Ref]</td><td>17 "Speed Ref"</td><td>301 [Motor Speed Ref]</td></tr><tr><td>3 "Output Curr"</td><td>308 [Output Current]</td><td>18 "Speed Fdbk"</td><td>71 [Filtered SpdFdbk]</td></tr><tr><td>4 "Trq Cur (Iq)"</td><td>499 [Trq Cur Fdbk (Iq)]</td><td>19 "Torque Est"</td><td>471 [Estimated Torque]</td></tr><tr><td>5 "% Motor Flux"</td><td>309 [% Motor Flux]</td><td>20 "Scl Spd Fdbk"</td><td>72 [Scaled Spd Fdbk]</td></tr><tr><td>6 "Output Power"</td><td>311 [Output Power]</td><td>21 "RampedSpdRef"</td><td>43 [Ramped Spd Ref]</td></tr><tr><td>7 "Output Volts"</td><td>307 [Output Voltage]</td><td>22 "Spd Reg Out"</td><td>101 [SpdReg Integ Out]</td></tr><tr><td>8 "DC Bus Volts"</td><td>306 [DC Bus Voltage]</td><td>23 "MOP Level"</td><td>1090 [MOP Level Real]</td></tr><tr><td>9 "PI Reference"</td><td>181 [PI Reference]</td><td>24 "Trend 1 DInt"</td><td>572 [Trend Out1 DInt]</td></tr><tr><td>10 "PI Feedback"</td><td>182 [PI Feedback]</td><td>25 "Trend 1 Real"</td><td>573 [Trend Out1 Real]</td></tr><tr><td>11 "PI Error"</td><td>183 [PI Error]</td><td>26 "Trend 2 DInt"</td><td>576 [Trend Out2 DInt]</td></tr><tr><td>12 "PI Output"</td><td>180 [PI Output]</td><td>27 "Trend 2 Real"</td><td>577 [Trend Out2 Real]</td></tr><tr><td>15 "Motor TrqRef"</td><td>303 [Motor Torque Ref]</td><td></td><td></td></tr></table>	Option	Parameter	Option	Parameter	1 "Output Freq"	310 [Output Freq]	16 "MtrTrqCurRef"	305 [Mtr Trq Curr Ref]	2 "Sel Spd Ref"	40 [Selected Spd Ref]	17 "Speed Ref"	301 [Motor Speed Ref]	3 "Output Curr"	308 [Output Current]	18 "Speed Fdbk"	71 [Filtered SpdFdbk]	4 "Trq Cur (Iq)"	499 [Trq Cur Fdbk (Iq)]	19 "Torque Est"	471 [Estimated Torque]	5 "% Motor Flux"	309 [% Motor Flux]	20 "Scl Spd Fdbk"	72 [Scaled Spd Fdbk]	6 "Output Power"	311 [Output Power]	21 "RampedSpdRef"	43 [Ramped Spd Ref]	7 "Output Volts"	307 [Output Voltage]	22 "Spd Reg Out"	101 [SpdReg Integ Out]	8 "DC Bus Volts"	306 [DC Bus Voltage]	23 "MOP Level"	1090 [MOP Level Real]	9 "PI Reference"	181 [PI Reference]	24 "Trend 1 DInt"	572 [Trend Out1 DInt]	10 "PI Feedback"	182 [PI Feedback]	25 "Trend 1 Real"	573 [Trend Out1 Real]	11 "PI Error"	183 [PI Error]	26 "Trend 2 DInt"	576 [Trend Out2 DInt]	12 "PI Output"	180 [PI Output]	27 "Trend 2 Real"	577 [Trend Out2 Real]	15 "Motor TrqRef"	303 [Motor Torque Ref]			Default: 17 = "Speed Fdbk" Options: 0 = "User Select" 14 = "Reserved" 1 = "Output Freq" 15 = "Motor TrqRef" 2 = "Sel Spd Ref" 16 = "MtrTrqCurRef" 3 = "Output Curr" 17 = "Speed Ref" 4 = "Trq Cur (Iq)" 18 = "Speed Fdbk" 5 = "% Motor Flux" 19 = "Torque Est" 6 = "Output Power" 20 = "Scl Spd Fdbk" 7 = "Output Volts" 21 = "RampedSpdRef" 8 = "DC Bus Volts" 22 = "Spd Reg Out" 9 = "PI Reference" 23 = "MOP Level" 10 = "PI Feedback" 24 = "Trend 1 DInt" 11 = "PI Error" 25 = "Trend 1 Real" 12 = "PI Output" 26 = "Trend 2 DInt" 13 = "Reserved" 27 = "Trend 2 Real"			
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15 "Motor TrqRef"	303 [Motor Torque Ref]																																																												
832	Anlg Out1 DInt Link this parameter to an integer source parameter that will control Analog Output 1.	Default: 0 Min/Max: -/+2147483648	✓	RW	32-bit Integer																																																								
833	Anlg Out1 Real Link this parameter to a real (floating point) source parameter that will control Analog Output 1.	Default: 0.0000 Min/Max: -/+2200000000.0000.0000	✓	RW	Real																																																								
834	Anlg Out1 Offset Provides an offset for Analog Output 1 before the scaling and limit blocks in the Analog Output 1 function. This parameter value is summed with either Par 832 [Anlg Out1 DInt] or Par 833 [Anlg Out1 Real] at the beginning of the function.	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real																																																								
835	Anlg Out1 Scale Scales the range of the source parameter to the range of Analog Output 1. For example: If Par 831 [Anlg Out1 Sel] is set to 1 "Output Freq", the output frequency of the drive is 0 - 60Hz and you enter "6" in this parameter, Par 837 [Anlg Out1 Value] = 6Hz per 1V, or 0 - 60Hz. Par 832 [Anlg Out1 DInt] or Par 833 [Anlg Out1 Real] is multiplied by this number after the limit function. Note: The turn-off point for this parameter has been changed from ±0.001 to ±0.0001 for firmware version 4.002.	Default: 0.0000 Min/Max: -/+2200000000.0000 Units: /V	✓	RW	Real																																																								
836	Anlg Out1 Zero Applies an offset to the scaled value of Analog Output 1. This parameter is summed with the output of the scaling block. This sum produces Par 837 [Anlg Out1 Value]. Typically this value corresponds to 0V for Analog Output 1.	Default: 0.0000 Min/Max: -/+20.0000 Units: V	✓	RW	Real																																																								
837	Anlg Out1 Value Displays the voltage reference for Analog Output 1 before the digital to analog conversion.	Default: 0.0000 Min/Max: -/+10.0000 Units: V		RO	Real																																																								
838	Anlg Out2 Sel Identifies the signal used on Analog Output 2. If the desired signal is not available in the selection list, choose option 0 - "User Select" and link with Par 839 [Anlg Out2 DInt] or Par 840 [Anlg Out2 Real] to select the desired parameter for output. Refer to Par 831 for a list of parameters that correspond to the option selected in this parameter.	Default: 3 = "Output Curr" Options: 0 = "User Select" 14 = "Reserved" 1 = "Output Freq" 15 = "Motor TrqRef" 2 = "Sel Spd Ref" 16 = "MtrTrqCurRef" 3 = "Output Curr" 17 = "Speed Ref" 4 = "Trq Cur (Iq)" 18 = "Speed Fdbk" 5 = "% Motor Flux" 19 = "Torque Est" 6 = "Output Power" 20 = "Scl Spd Fdbk" 7 = "Output Volts" 21 = "RampedSpdRef" 8 = "DC Bus Volts" 22 = "Spd Reg Out" 9 = "PI Reference" 23 = "MOP Level" 10 = "PI Feedback" 24 = "Trend 1 DInt" 11 = "PI Error" 25 = "Trend 1 Real" 12 = "PI Output" 26 = "Trend 2 DInt" 13 = "Reserved" 27 = "Trend 2 Real"																																																											

No.	Name Description	Values	Linkable	Read-Write	Data Type
839	Anlg Out2 DInt Link this parameter to an integer source parameter that will control Analog Output 2.	Default: 0 Min/Max: -/+2147483648	✓	RW	32-bit Integer
840	Anlg Out2 Real Link this parameter to a real (floating point) source parameter that will control Analog Output 2.	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
841	Anlg Out2 Offset Provides an offset for Analog Output 2 before the scaling and limit blocks in the Analog Output 2 function. This parameter value is summed with either Par 839 [Anlg Out2 DInt] or Par 840 [Anlg Out2 Real] at the beginning of the function.	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
842	Anlg Out2 Scale Scales the range of the source parameter to the range of Analog Output 2. For example: If Par 838 [Anlg Out2 Sel] is set to 1 "Output Freq", the output frequency of the drive is 0 - 60Hz and you enter "6" in this parameter, Par 844 [Anlg Out2 Value] = 6Hz per 1V, or 0 - 60Hz. Par 839 [Anlg Out2 DInt] or Par 840 [Anlg Out2 Real] is multiplied by this number after the limit function. Note: The turn-off point for this parameter has been changed from ±0.001 to ±0.0001 for firmware version 4.002.	Default: 0.0000 Min/Max: -/+2200000000.0000 Units: /V	✓	RW	Real
843	Anlg Out2 Zero Applies an offset to the scaled value of Analog Output 2. This parameter is summed with the output of the scaling block. This sum produces Par 844 [Anlg Out2 Value]. Typically this value corresponds to 0V for Analog Output 2.	Default: 0.0000 Min/Max: -/+20.0000 Units: V	✓	RW	Real
844	Anlg Out2 Value Displays the voltage reference for Analog Output 2 before the digital to analog conversion.	Default: 0.0000 Min/Max: -/+10.0000 Units: V		RO	Real
845	Dig Out1 Sel identifies the signal used on Digital Output 1. If the desired signal is not available in the selection list, choose option 0 - "User Select" and link with Par 846 [Dig Out1 Data] and Par 847 [Dig Out1 Bit] to select the desired parameter and bit for output.	Default: 3 = "Ready" Options: 0 = "User Select" 15 = "Torque Limit" 1 = "Not Fault" 16 = "Power Limit" 2 = "Not Alarm" 17 = "Fault" 3 = "Ready" 18 = "Alarm" 4 = "Running" 19 = "Command Dir" 5 = "Reserved" 20 = "Actual Dir" 6 = "Reserved" 21 = "Jogging" 7 = "Enable On" 22 = "In Position" 8 = "Active" 23 = "Posit Watch1" 9 = "At Speed" 24 = "Posit Watch2" 10 = "At Setpt 1" 25 = "Cmpr 1 A<=B" 11 = "Above Setpt 2" 26 = "Cmpr 1 A>=B" 12 = "At ZeroSpeed" 27 = "Cmpr 2 A<=B" 13 = "Speed Limit" 28 = "Cmpr 2 A>=B" 14 = "CurrentLimit"			
846	Dig Out1 Data Link a word to this parameter that will control Digital Output 1. The bit within the selected word that will control Digital Output 1 is set by Par 847 [Dig Out1 Bit].	Default: 00000000000000000000000000000000 Min: 00000000000000000000000000000000 Max: 11111111111111111111111111111111	✓	RW	32-bit Boolean
847	Dig Out1 Bit Selects the bit, from the word linked to Par 846 [Dig Out1 Data], that will change the status of Digital Output 1 (e.g., when Par 847 [Dig Out1 Bit] equals 0, bit 0 of Par 846 [Dig Out1 Data] will control Digital Output 1).	Default: 0 Min/Max: -32/31	✓	RW	16-bit Integer
848	Dig Out1 On Time Defines the amount of time between a False to True transition on the output status and the corresponding change in state of Digital Output 1. If a transition on an output condition occurs and starts the time delay and the output condition returns to its original state before the delay timer reaches the setpoint, the delay timer will be aborted and the corresponding output status or digital output will not change state. Par 848 [Dig Out1 On Time] can be disabled by setting the delay time to 0 (zero). Note: This parameter was added for firmware version 3.001.	Default: 0.00 Min/Max: 0.00/600.00 Units: s		RW	16-bit Integer
849	Dig Out1 OffTime Defines the amount of time between a True to False transition on the output status and the corresponding change in state of Digital Output 1. If a transition on an output condition occurs and starts the time delay and the output condition returns to its original state before the delay timer reaches the setpoint, the delay timer will be aborted and the corresponding output status or digital output will not change state. Note: This parameter was added for firmware version 3.001.	Default: 0.00 Min/Max: 0.00/600.00 Units: s		RW	16-bit Integer

No.	Name Description	Values	Linkable	Read-Write	Data Type
850	Dig Out2 Sel Identifies the signal used on Digital Output 2. If the desired signal is not available in the selection list, choose option 0 - "User Select" and link with Par 851 [Dig Out 2 Data] and Par 852 [Dig Out2 Bit] to select the desired parameter and bit for output.	Default: 8 = "Active" Options: 0 = "User Select" 15 = "Torque Limit" 1 = "Not Fault" 16 = "Power Limit" 2 = "Not Alarm" 17 = "Fault" 3 = "Ready" 18 = "Alarm" 4 = "Running" 19 = "Command Dir" 5 = "Reserved" 20 = "Actual Dir" 6 = "Reserved" 21 = "Jogging" 7 = "Enable On" 22 = "In Position" 8 = "Active" 23 = "Posit Watch1" 9 = "At Speed" 24 = "Posit Watch2" 10 = "At Setpt 1" 25 = "Cmpr 1 A<=/B" 11 = "Above Setpt 2" 26 = "Cmpr 1 A>/=B" 12 = "At ZeroSpeed" 27 = "Cmpr 2 A<=/B" 13 = "Speed Limit" 28 = "Cmpr 2 A>/=B" 14 = "CurrentLimit"			
851	Dig Out2 Data Link a word to this parameter that will control Digital Output 2. The bit within the selected word that will control Digital Output 2 is set by Par 852 [Dig Out2 Bit].	Default: 00000000000000000000000000000000 Min: 00000000000000000000000000000000 Max: 11111111111111111111111111111111	✓	RW	32-bit Boolean
852	Dig Out 2 Bit Selects the bit, from the word linked to Par 851 [Dig Out 2 Data], that will change the status of Digital Output 2 (e.g., when Par 852 [Dig Out 2 Bit] equals 0, bit 0 of Par 851 [Dig Out 2 Data] will control Digital Output 2).	Default: 0 Min/Max: -32/31	✓	RW	16-bit Integer
853	Dig Out2 On Time Defines the amount of time between a False to True transition on the output status and the corresponding change in state of Digital Output 2. If a transition on an output condition occurs and starts the time delay and the output condition returns to its original state before the delay timer reaches the setpoint, the delay timer will be aborted and the corresponding output status or digital output will not change state. Par 853 [Dig Out2 On Time] can be disabled by setting the delay time to 0 (zero). Note: This parameter was added for firmware version 3.001.	Default: 0.00 Min/Max: 0.00/600.00 Units: s		RW	16-bit Integer
854	Dig Out2 OffTime Defines the amount of time between a True to False transition on the output status and the corresponding change in state of Digital Output 2. If a transition on an output condition occurs and starts the time delay and the output condition returns to its original state before the delay timer reaches the setpoint, the delay timer will be aborted and the corresponding output status or digital output will not change state. Note: This parameter was added for firmware version 3.001.	Default: 0.0 Min/Max: 0.0/600.00 Units: s		RW	16-bit Integer
855	Rly Out3 Sel Identifies the signal used on Digital Output 3. If the desired signal is not available in the selection list, choose option 0 - "User Select" and link with Par 856 [Rly Out3 Data] and Par 857 [Rly Out3 Bit] to select the desired parameter for output.	Default: 1 = "Not Fault" Options: 0 = "User Select" 15 = "Torque Limit" 1 = "Not Fault" 16 = "Power Limit" 2 = "Not Alarm" 17 = "Fault" 3 = "Ready" 18 = "Alarm" 4 = "Running" 19 = "Command Dir" 5 = "Reserved" 20 = "Actual Dir" 6 = "Reserved" 21 = "Jogging" 7 = "Enable On" 22 = "In Position" 8 = "Active" 23 = "Posit Watch1" 9 = "At Speed" 24 = "Posit Watch2" 10 = "At Setpt 1" 25 = "Cmpr 1 A<=/B" 11 = "Above Setpt 2" 26 = "Cmpr 1 A>/=B" 12 = "At ZeroSpeed" 27 = "Cmpr 2 A<=/B" 13 = "Speed Limit" 28 = "Cmpr 2 A>/=B" 14 = "CurrentLimit"			
856	Rly Out3 Data Link a word to this parameter that will control the Relay Output 3. The bit within the selected word that will control Relay Output 3 is set by Par 857 [Rly Out3 Bit].	Default: 00000000000000000000000000000000 Min: 00000000000000000000000000000000 Max: 11111111111111111111111111111111	✓	RW	32-bit Boolean
857	Rly Out3 Bit Selects the bit, from the word linked to Par 856 [Rly Out3 Data] that will change the status of the Relay Output 3 (e.g., when Par 857 [Rly Out3 Bit] equals 0, bit 0 of Par 856 [Rly Out3 Data] will control the Relay Output 3).	Default: 0 Min/Max: -32/31	✓	RW	16-bit Integer
858	Rly Out3 On Time Defines the amount of time between a False to True transition on the output status and the corresponding change in state of Relay Output 3. If a transition on an output condition occurs and starts the time delay and the output condition returns to its original state before the delay timer reaches the setpoint, the delay timer will be aborted and the corresponding output status or relay output will not change state. Par 858 [Rly Out3 On Time] can be disabled by setting the delay time to 0 (zero). Note: This parameter was added for firmware version 3.001.	Default: 0.00 Min/Max: 0.00/600.00 Units: s		RW	16-bit Integer

No.	Name Description	Values	Linkable	Read-Write	Data Type
859	Rly Out3 OffTime Defines the amount of time between a True to False transition on the output status and the corresponding change in state of Relay Output 3. If a transition on an output condition occurs and starts the time delay and the output condition returns to its original state before the delay timer reaches the setpoint, the delay timer will be aborted and the corresponding output status or relay output will not change state. Note: This parameter was added for firmware version 3.001.	Default: 0.00 Min/Max: 0.00/600.00 Units: s		RW	16-bit Integer
General BitSwap Description The six (6) Bit Swap functions are used to replace one bit in a word with one bit from a different word. This is typically done to a control word where one bit in the control word is replaced by a bit from another word such as a digital input. Four (4) input parameters and one (1) output parameter are used to accomplish each Bit Swap function. Refer to the User Functions 1 block diagram on page 206 .					
860 865 870 875 880 885	BitSwap 1A Data BitSwap 2A Data BitSwap 3A Data BitSwap 4A Data BitSwap 5A Data BitSwap 6A Data This is the main word in which 1 bit will be edited. All of the data from this word except the selected bit in Par 861 [BitSwap 1A Bit] are passed to Par 864 [BitSwap 1 Result].	Default: 0 Min/Max: 32 bits of data	✓	RW	32-bit Boolean
861 866 871 876 881 886	BitSwap 1A Bit BitSwap 2A Bit BitSwap 3A Bit BitSwap 4A Bit BitSwap 5A Bit BitSwap 6A Bit This parameter specifies the bit to be replaced in Par 860 [BitSwap 1A Data].	Default: 0 Min/Max: 0/31		RW	16-bit Integer
862 867 872 877 882 887	BitSwap 1B Data BitSwap 2B Data BitSwap 3B Data BitSwap 4B Data BitSwap 5B Data BitSwap 6B Data This parameter contains the word from which the replacement bit will be selected. Only the selected bit is passed to Par 864 [BitSwap 1 Result].	Default: 0 Min/Max: 32 bits of data	✓	RW	32-bit Boolean
863 868 873 878 883 888	BitSwap 1B Bit BitSwap 2B Bit BitSwap 3B Bit BitSwap 4B Bit BitSwap 5B Bit BitSwap 6B Bit This parameter specifies the bit from Par 862 [BitSwap 1B Data] that will replace the specified bit in Par 860 [BitSwap 1A Data] and be loaded to Par 864 [BitSwap 1 Result]. A negative bit selection may be used to invert the data. Use "-32" to invert the value of bit 0.	Default: 0 Min/Max: -32/+31		RW	16-bit Integer
864 869 874 879 884 889	BitSwap 1 Result BitSwap 2 Result BitSwap 3 Result BitSwap 4 Result BitSwap 5 Result BitSwap 6 Result This parameter contains the result of the Bit Swap operation.	Default: 0 Min/Max: 32 bits of data		RO	32-bit Boolean

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																			
892	SL Comm TP Sel Enter or write a value to select SynchLink™ data displayed by Par 893 [SL Comm TP Data].	Default: 0 = "Zero" Options: 0 = "Zero" 13 = "BufSeqErrTim" 1 = "SL MultA Src" 14 = "Rx Sys Rev" 2 = "SL Mult A In" 15 = "Tx Axis Size" 3 = "SL Mult B In" 16 = "Tx Dir Size" 4 = "SL Mult Out" 17 = "Tx Buf Size" 5 = "Rx Axis Size" 18 = "Tx Pkg Size" 6 = "Rx Dir Size" 19 = "Tx Seq Cnt" 7 = "Rx Buf Size" 20 = "Tx Index 0" 8 = "Rx Pkg Size" 21 = "Tx Index 1" 9 = "Rx Seq Cnt" 22 = "Tx Index 2" 10 = "Rx Index 0" 23 = "Rx Vendor ID" 11 = "Rx Index 1" 24 = "Rx ModuleTyp" 12 = "Rx Index 2" 25 = "Rx Serial #"																																																						
893	SL Comm TP Data Displays data selected by Par 892 [SL Comm TP Sel].	Default: 0 Min/Max: -/+2147483648		RO	32-bit Integer																																																			
894	SL CRC Err Accum Displays the total accumulated number of Cycle Redundancy Check (CRC) errors. Clearing a fault resets this accumulator. This data is visible on the SynchLink diagnostics tab of the Peer Communication window. Refer to the <i>SynchLink System Design Guide</i> , publication 1756-TD008, for PowerFlex 700S SynchLink topologies, hardware and wiring details.	Default: 0 Min/Max: 0/4294967296		RO	32-bit Integer																																																			
895	SL CRC Error Displays the number of CRC errors that occurred during the last test (last 8 ms). This data is visible on the SynchLink diagnostics tab of the Peer Communication window.	Default: 0 Min/Max: 0/4294967296		RO	32-bit Integer																																																			
896	SL BOF Err Accum Displays the total accumulated number of Beginning of Frame (BOF) errors. Clearing a fault resets this accumulator. This data is visible on the SynchLink diagnostics tab of the Peer Communication window.	Default: 0 Min/Max: 0/4294967296		RO	32-bit Integer																																																			
897	SL BOF Error Displays the number of BOF errors that occurred during the last test (last 8 ms). This data is visible on the SynchLink diagnostics tab of the Peer Communication window.	Default: 0 Min/Max: 0/4294967296		RO	32-bit Integer																																																			
898	SL CRC Err Limit Identifies 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: 2 Min/Max: 0/256		RW	32-bit Integer																																																			
899	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: 2 Min/Max: 0/256		RW	32-bit Integer																																																			
900	SynchLink Rev Indicates the current revision of the local SynchLink Programmable Logic firmware.	Default: 0.1 Min/Max: 0.1/999.9		RO	16-bit Integer																																																			
901	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: 0.001 Min/Max: 0.001/999.999		RO	32-bit Integer																																																			
902 903	SL Error Status SL Error History Indicates the presence of SynchLink faults. This data is visible 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 to receive data. • Bit 2 "Many BOF Err" indicates the number of Beginning Of Frame (BOF) errors exceeds limit set by Par 899 [SL BOF Err Limit]. • Bit 3 "Many CRC Err" indicates the number of Cyclic Redundancy Check (CRC) errors exceeds limit set by Par 898 [SL CRC Err Limit]. • Bit 4 "Pkg 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 Par 900 [SynchLink Rev]. • Bit 7 "Mult TKeeper" indicates more than one node on the SynchLink system is configured as a time keeper. <table><tr><th>Options</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Mult TimeKpr</th><th>Sys Rev Err</th><th>Comm Frmt Err</th><th>Pkg Msg Err</th><th>Many CRC Err</th><th>Many BOF Err</th><th>Rx Loss</th><th>Sync Loss</th></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True					Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Mult TimeKpr	Sys Rev Err	Comm Frmt Err	Pkg Msg Err	Many CRC Err	Many BOF Err	Rx Loss	Sync Loss	Default	x	x	x	x	x	x	x	x	0	0	0	0	0	0	0	0	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Mult TimeKpr	Sys Rev Err	Comm Frmt Err	Pkg Msg Err	Many CRC Err	Many BOF Err	Rx Loss	Sync Loss																																								
Default	x	x	x	x	x	x	x	x	0	0	0	0	0	0	0	0																																								
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																								

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																			
904	SL Node Cnfg Set bits to configure the SynchLink node. - Setting bit 0 "Time Keeper" configures the local node as the Time Master. - Setting bit 2 "Sync Now" 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. - Setting bit 3 "Reset SL" resets SynchLink. This can be used to reset SynchLink after a configuration change instead of cycling the drive's power. Note: This parameter was changed to non-linkable for firmware version 3.001.	<table><tr><td>Options</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reset SL</td><td>Sync Now</td><td>Reserved</td><td>Time Keeper</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>x</td><td>0</td></tr><tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True	Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reset SL	Sync Now	Reserved	Time Keeper	Default	x	x	x	x	x	x	x	x	x	x	x	x	0	0	x	0	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			
Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reset SL	Sync Now	Reserved	Time Keeper																																								
Default	x	x	x	x	x	x	x	x	x	x	x	x	0	0	x	0																																								
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																								
905	SL Rx CommFormat 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 the DriveExecutive™ programming software. Option 14 can be used to allow the drive to receive position data that can be used as a position reference. Notes: Options 6 and 16 were added for firmware version 2.004. Option 14 was added and this parameter was changed to non-linkable for firmware version 3.001.	<table><tr><td></td><td>Value</td><td>Axis (A)</td><td>Direct (D)</td><td>Buffered (B)</td></tr><tr><td>Options</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td></td><td>6</td><td>1</td><td>2</td><td>4</td></tr><tr><td></td><td>7</td><td>0</td><td>2</td><td>18</td></tr><tr><td></td><td>9</td><td>0</td><td>4</td><td>8</td></tr><tr><td></td><td>14</td><td>1</td><td>3</td><td>14</td></tr><tr><td></td><td>16</td><td>1</td><td>4</td><td>4</td></tr><tr><td></td><td>17</td><td>0</td><td>4</td><td>18</td></tr></table>		Value	Axis (A)	Direct (D)	Buffered (B)	Options	0	0	0	0		6	1	2	4		7	0	2	18		9	0	4	8		14	1	3	14		16	1	4	4		17	0	4	18														
	Value	Axis (A)	Direct (D)	Buffered (B)																																																				
Options	0	0	0	0																																																				
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	7	0	2	18																																																				
	9	0	4	8																																																				
	14	1	3	14																																																				
	16	1	4	4																																																				
	17	0	4	18																																																				
906	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: 0 = "No Data" Options: 0 = "No Data" 14 = "Reserved" 1 = "SL Multiply" 15 = "Reserved" 2 = "Event P0" 16 = "Reserved" 3 = "Event P1" 17 = "Reserved" 4 = "Reserved" 18 = "Reserved" 5 = "Reserved" 19 = "Reserved" 6 = "Reserved" 20 = "Reserved" 7 = "Reserved" 21 = "Dir Tx Data" 8 = "Reserved" 22 = "Dir Rx Data" 9 = "Reserved" 23 = "E0 Accum" 10 = "Event Status" 24 = "E1 Accum" 11 = "Reserved" 25 = "Opt0 Accum" 12 = "Reserved" 26 = "Opt1 Accum" 13 = "Reserved"																																																						
907	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.																																																							
908	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.																																																							
909	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. Notes: Options 16 - 26 were added for firmware version 2.004. These parameters were changed to non-linkable for firmware version 3.001.																																																							
910	SL Tx Comm Format 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 in the DriveExecutive™ programming software. Value 14 can be used to allow the drive to transmit position data that can be used as a position reference. Note: Option 14 was added and this parameter was changed to non-linkable for firmware version 3.001.	<table><tr><td></td><td>Value</td><td>Axis (A)</td><td>Direct (D)</td><td>Buffered (B)</td></tr><tr><td>Options</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td></td><td>7</td><td>0</td><td>2</td><td>18</td></tr><tr><td></td><td>9</td><td>0</td><td>4</td><td>8</td></tr><tr><td></td><td>14</td><td>1</td><td>3</td><td>14</td></tr><tr><td></td><td>17</td><td>0</td><td>4</td><td>18</td></tr></table>		Value	Axis (A)	Direct (D)	Buffered (B)	Options	0	0	0	0		7	0	2	18		9	0	4	8		14	1	3	14		17	0	4	18																								
	Value	Axis (A)	Direct (D)	Buffered (B)																																																				
Options	0	0	0	0																																																				
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	9	0	4	8																																																				
	14	1	3	14																																																				
	17	0	4	18																																																				
911	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.	Default: 0 = "No Data" Options: 0 = "No Data" 14 = "Reserved" 1 = "SL Multiply" 15 = "Reserved" 2 = "Event P0" 16 = "Reserved" 3 = "Event P1" 17 = "Reserved" 4 = "Reserved" 18 = "Reserved" 5 = "Reserved" 19 = "Reserved" 6 = "Reserved" 20 = "Reserved" 7 = "Reserved" 21 = "Dir Tx Data" 8 = "Reserved" 22 = "Dir Rx Data" 9 = "Reserved" 23 = "E0 Accum" 10 = "Event Status" 24 = "E1 Accum" 11 = "Reserved" 25 = "Opt0 Accum" 12 = "Reserved" 26 = "Opt1 Accum" 13 = "Reserved"																																																						
912	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.																																																							
913	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.																																																							
914	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. Note: These parameters were changed to non-linkable for firmware version 3.001.																																																							

[illegible]

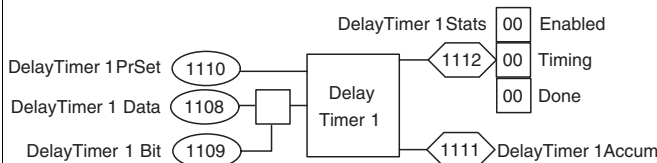
No.	Name Description	Values	Linkable	Read-Write	Data Type																																																																																																		
1000	UserFunc Enable  This parameter is used to enable and disable the optional user functions. If a bit is set the corresponding function is enabled. If the bit is not set the corresponding function is disabled and will not be processed (outputs will not be updated). Notes: Bit 16 "Ratio Calc" was added for firmware version 2.004. Bit 5 "AddSub Math" and bit 6 "Delay Timer" were added for firmware version 3.001. Bit 7 "EGR" (Electronic Gear Ratio) was added for firmware version 4.001.	<table><tr><td>Options</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>MOP</td><td>Ratio Calc</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>EGR</td><td>Delay Timer</td><td>AddSub Math</td><td>MulDiv Math</td><td>Logic Functs</td><td>Converts</td><td>Sel Switches</td><td>User Params</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>1</td><td>0</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></tr><tr><td>Bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True	Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	MOP	Ratio Calc	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	EGR	Delay Timer	AddSub Math	MulDiv Math	Logic Functs	Converts	Sel Switches	User Params	Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1	0	x	x	x	x	x	x	x	0	1	1	1	1	1	1	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			
Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	MOP	Ratio Calc	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	EGR	Delay Timer	AddSub Math	MulDiv Math	Logic Functs	Converts	Sel Switches	User Params																																																																							
Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1	0	x	x	x	x	x	x	x	0	1	1	1	1	1	1																																																																								
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																							
1001	UserFunc Actual This parameter displays the actual status of the user functions. If a bit is set, then the corresponding function is active. When Par 1001 [UserFunc Actual] does not match Par 1000 [UserFunc Enable] it is an indication that the function could not activate because of an error. Typically, the limitation is caused by processor overloading. Adjust Par 146 [FW TaskTime Sel] to a slower task cycle (more time).	<table><tr><td>Options</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>MOP</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>MulDiv Math</td><td>Logic Functs</td><td>Converts</td><td>Sel Switches</td><td>User Params</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True	Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	MOP	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	MulDiv Math	Logic Functs	Converts	Sel Switches	User Params	Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	x	x	x	x	x	x	x	x	x	x	0	0	0	0	0	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0				
Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	MOP	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	MulDiv Math	Logic Functs	Converts	Sel Switches	User Params																																																																								
Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	x	x	x	x	x	x	x	x	x	x	0	0	0	0	0																																																																								
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																							
1002 to 1011	UserData DInt 01 to UserData DInt 10 These are general purpose parameters available for storage of 32-bit enumerated data or DInt data by the user. These parameters will be retained through power cycles.	Default: 0 Min/Max: -/+2147483648	✓	RW	32-bit Integer																																																																																																		
1012 to 1021	User Data Real 01 to UserData Real 10 These are general purpose parameters available for storage of Real data by the user. These parameters will be retained through power cycles.	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real																																																																																																		
1022	Sel Switch Ctrl This is the control parameter for the switches used by the Selector Switch user functions. 16 Input Selector Switches (Pars 1029 - 1044) are controlled by bits 1-4. - Bit 0 "SSW DataPass" Updates the output. If bit 0 is low, the output is NOT updated with the selected input. - Bits 1 "Sel Switch 00" - 4 "Sel Switch 03" Binary coded selection of the 16 inputs to the switch. Bit 1 is the Least Significant Bit. If these bits are all low (set to "0"), Par 1029 is selected. If these bits are all high (set to "1") Par 1044 is selected. (Refer to Pars 1029 - 1044.) The values in these bits can be controlled by the digital inputs. (Refer to Pars 825 - 830 and to the "Selector Switches" section of the <i>PowerFlex 700S Drives with Phase II Control - Reference Manual</i>, publication PELEX-RM003, for more information.) - Bit 5 "SW Real 1 On" activates the Real switch. (Refer to Pars 1023 - 1025.) - Bit 6 "SW DInt 1 On" activates the DInt switch. (Refer to Pars 1026 - 1028.)	<table><tr><td>Options</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>SW DInt 1 On</td><td>SW Real 1 On</td><td>Sel Switch 03</td><td>Sel Switch 02</td><td>Sel Switch 01</td><td>Sel Switch 00</td><td>SSW DataPass</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td><td></td></tr></table> 0 = False 1 = True	Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	SW DInt 1 On	SW Real 1 On	Sel Switch 03	Sel Switch 02	Sel Switch 01	Sel Switch 00	SSW DataPass	Default	x	x	x	x	x	x	x	x	x	x	0	0	0	0	0	0	0	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																
Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	SW DInt 1 On	SW Real 1 On	Sel Switch 03	Sel Switch 02	Sel Switch 01	Sel Switch 00	SSW DataPass																																																																																						
Default	x	x	x	x	x	x	x	x	x	x	0	0	0	0	0	0	0																																																																																						
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																																							
1023	Switch Real 1 NC This is the Normally Closed input to the Real switch. When Par 1022 [Sel Switch Ctrl], bit 5 "SW Real 1 On" is low, this input is updated to Par 1025 [Swtch Real 1 Output].	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real																																																																																																		
1024	Switch Real 1 NO This is the Normally Open input to the Real switch. When Par 1022 [Sel Switch Ctrl], bit 5 "SW Real 1 On" is high, this input is updated to Par 1025 [Swtch Real 1 Output].	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real																																																																																																		
1025	Switch Real 1 Out This is the result of the Real switch. The output is loaded with the selected input based on Par 1022 [Sel Switch Ctrl], bit 5 "SW Real 1 On". If this parameter does not update, check the setting of Par 1000 [UserFunc Enable], bit 1 "User Params".	Default: 0.0000 Min/Max: -/+2200000000.0000		RO	Real																																																																																																		

No.	Name Description	Values	Linkable	Read-Write	Data Type
1026	SwTch DInt 1 NC This is the Normally Closed input to the DInt switch. When Par 1022 [Sel Switch Ctrl], bit 6 "SW DInt 1 On" is low, this input is updated to Par 1028 [SwTch DInt 1 Output].	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	32-bit Integer
1027	SwTch DInt 1 NO This is the Normally Open input to the Real switch. When Par 1022 [Sel Switch Ctrl], bit 6 "SW DInt 1 On" is high, this input is updated to Par 1028 [SwTch DInt 1 Output].	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	32-bit Integer
1028	SwTch DInt 1 Out This is the result of the switch. The output is loaded with the selected input based on Par 1022 [Sel Switch Ctrl], bit 6 "SW DInt 1 On". If this parameter does not update, check the setting of Par 1000 [UserFunc Enable], bit 1 "User Params".	Default: 0.0000 Min/Max: -/+2200000000.0000		RO	32-bit Integer
1029 to 1044	Sel SwTch In00 to Sel SwTch In15 Set these values for the inputs to the selector switch specified in Par 1022 [Sel Switch Ctrl]. All inputs are entered as Real values. You may use the output of the selector switch as either Real or DInt. A conversion is done to create the DInt value.	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
1045	SelSwTch RealOut This is the result of the selector switch. The output is loaded with the selected input based on Par 1022 [Sel Switch Ctrl], bit 0 and bits 1-4. The output is only updated when Par 1022 [Sel Switch Ctrl], bit 0 "SSW DataPass" is high. If Par 1022 [Sel Switch Ctrl], bit 0 is not high the output will not be updated to the selected input. If this parameter does not update, check the setting of Par 1000 [UserFunc Enable], bit 1 "User Params".	Default: 0.0000 Min/Max: -/+2200000000.0000		RO	Real
1046	SelSwTch DIntOut This value is the value of Par 1045 [SelSwTch RealOut] converted to a DInt value. Use this value for point to point positioning values.	Default: 0 Min/Max: -/+2147483648		RO	32-bit Integer
1047	DInt2Real1 In Input value for a first DInt to Real value conversion. Note: This parameter name changed from [DInt2Real In] to [DInt2Real1 In] for firmware version 3.001.	Default: 0 Min/Max: -/+2147483648	✓	RW	32-bit Integer
1048	DInt2Real1 Scale Input value to scale the first conversion from DInt to Real. This is a multiplication to the input value after conversion to a Real value. Note: This parameter name changed from [DInt2Real Scale] to [DInt2Real1 Scale] for firmware version 3.001.	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
1049	DInt2Real1Result This is the resultant output of the first conversion form a DInt value to a Real value after scaling. Note: This parameter name changed from [DInt2RealResult] to [DInt2Real1Result] for firmware version 3.001.	Default: 0.0000 Min/Max: -/+2200000000.0000		RO	Real
1050	Real2DInt In Input value for Real to DInt value conversion.	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
1051	Real2DInt Scale Input value to scale the conversion from Real to DInt. This is a multiplication to the input value after conversion to a DInt value.	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
1052	Real2DInt Result This is the resultant output of the conversion form a Real value to a DInt value after scaling.	Default: 0 Min/Max: -/+2147483648		RO	32-bit Integer
1053	MulDiv 1 Input Input value to be scaled as need with the Multiplication and Division function. This input will be multiplied by Par 1054 [MulDiv 1 Mul] and then divided by Par 1055 [MulDiv 1 Div]. The result will be loaded to Par 1056 [MulDiv 1 Result]. Equation: $(\text{Par } 1053 * \text{Par } 1054) / \text{Par } 1055 = \text{Par } 1056$	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
1054	MulDiv 1 Mul Set this value as the multiplier to the value of Par 1053 [MulDiv 1 Input]. The result will be divided by Par 1055 and loaded into Par 1056 . See Par 1053 .	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
1055	MulDiv 1 Div Set this value as the divisor of the result of Par 1053 * Par 1054 . The result will be loaded into Par 1056 . See Par 1053 .	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
1056	MulDiv 1 Result This is the result output from the Multiplication and Division function. See Par 1053 . Equation: $\text{Par } 1056 = (\text{Par } 1053 * \text{Par } 1054) / \text{Par } 1055$	Default: 0.0000 Min/Max: -/+2200000000.0000		RO	Real

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																																																																				
1057	MulDiv 2 Input Input value to be scaled as need with the Multiplication and Division function. This input will be multiplied by Par 1058 [MulDiv 2 Mul] and then divided by Par 1059 [MulDiv 2 Div]. The result will be loaded to Par 1060 [MulDiv 2 Result]. Equation: (Par 1057 * Par 1058) / Par 1059 = Par 1060	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real																																																																																																				
1058	MulDiv 2 Mul Set this value as the multiplier to the value of Par 1057 [MulDiv 2 Input]. The result will be divided by Par 1059 and loaded into Par 1060 . See Par 1057 .	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real																																																																																																				
1059	MulDiv 2 Div Set this value as the divisor of the result of Par 1057 * Par 1058 . The result will be loaded into Par 1060 . See Par 1057 .	Default: 0.0000 Min/Max: -/+2200000000.0000	✓	RW	Real																																																																																																				
1060	MulDiv 2 Result This is the result output from the Multiplication and Division function. See Par 1057 . Equation: Par 1060 = (Par 1057 * Par 1058) / Par 1059	Default: 0.0000 Min/Max: -/+2200000000.0000		RO	Real																																																																																																				
1061	Logic Config Set this parameter to configure the logic routine in Pars 1063 - 1070. The result of this logic routine is displayed in Par 1062 [Logic/Cmpr State]. There are three configurable logic blocks as displayed below. Each block can be configured as (AND / NAND / OR / NOR / XOR / NXOR). Select the functions as desired. Multiple operation selection for one block will result in the first selection (least significant bit) being the active mode. <table><thead><tr><th>Options</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Logic 3 NXOR</th><th>Logic 3 XOR</th><th>Logic 3 NOR</th><th>Logic 3 OR</th><th>Logic 3 NAND</th><th>Logic 3 AND</th><th>Logic 2 NXOR</th><th>Logic 2 XOR</th><th>Logic 2 NOR</th><th>Logic 2 OR</th><th>Logic 2 NAND</th><th>Logic 2 AND</th><th>Logic 1 NXOR</th><th>Logic 1 XOR</th><th>Logic 1 NOR</th><th>Logic 1 OR</th><th>Logic 1 NAND</th><th>Logic 1 AND</th></tr></thead><tbody><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></tbody></table> 0 = False 1 = True					Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Logic 3 NXOR	Logic 3 XOR	Logic 3 NOR	Logic 3 OR	Logic 3 NAND	Logic 3 AND	Logic 2 NXOR	Logic 2 XOR	Logic 2 NOR	Logic 2 OR	Logic 2 NAND	Logic 2 AND	Logic 1 NXOR	Logic 1 XOR	Logic 1 NOR	Logic 1 OR	Logic 1 NAND	Logic 1 AND	Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Logic 3 NXOR	Logic 3 XOR	Logic 3 NOR	Logic 3 OR	Logic 3 NAND	Logic 3 AND	Logic 2 NXOR	Logic 2 XOR	Logic 2 NOR	Logic 2 OR	Logic 2 NAND	Logic 2 AND	Logic 1 NXOR	Logic 1 XOR	Logic 1 NOR	Logic 1 OR	Logic 1 NAND	Logic 1 AND																																																																								
Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																																																									
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																									
1062	Logic/Cmpr State Displays the logical states of the Logic routine (Pars 1063 - 1070) and the results of the compare functions (Par 1071 - 1074). <table><thead><tr><th>Options</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Reserved</th><th>Cmpr 2 A>=/B</th><th>Cmpr 2 A<=/B</th><th>Cmpr 1 A>=/B</th><th>Cmpr 1 A<=/B</th><th>Reserved</th><th>Logic 3 Rslt</th><th>Logic 2 Rslt</th><th>Logic 1 Rslt</th></tr></thead><tbody><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></tbody></table> 0 = False 1 = True					Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Cmpr 2 A>=/B	Cmpr 2 A<=/B	Cmpr 1 A>=/B	Cmpr 1 A<=/B	Reserved	Logic 3 Rslt	Logic 2 Rslt	Logic 1 Rslt	Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	0	0	0	0	0	0	Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0							
Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Cmpr 2 A>=/B	Cmpr 2 A<=/B	Cmpr 1 A>=/B	Cmpr 1 A<=/B	Reserved	Logic 3 Rslt	Logic 2 Rslt	Logic 1 Rslt																																																																												
Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	0	0	0	0	0	0																																																																												
Bit	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																									
1063	Logic 1A Data Selects the data word for the first input to Logic Block 1. See Par 1061 [Logic Config].	Default: 0 Min/Max: 32 bits of data	✓	RW	32-bit Boolean																																																																																																				
1064	Logic 1A Bit Selects the bit of Par 1063 [Logic 1A Data] for the first input to Logic Block 1. Note: To invert the selected input enter the desired bit as negative. Use -32 to invert bit 0.	Default: 0 Min/Max: -31/32		RW	16-bit Integer																																																																																																				
1065	Logic 1B Data Selects the data word for the second input to Logic Block 1. See Par 1061 [Logic Config].	Default: 0 Min/Max: 32 bits of data	✓	RW	32-bit Boolean																																																																																																				

No.	Name Description	Values	Linkable	Read-Write	Data Type																		
1066	Logic 1B Bit Selects the bit of Par 1065 [Logic 1B Data] for the second input to Logic Block 1. Note: To invert the selected input enter the desired bit as negative. Use -32 to invert bit 0.	Default: 0 Min/Max: -31/32		RW	16-bit Integer																		
1067	Logic 2A Data Selects the data word for the first input to Logic Block 2. See Par 1061 [Logic Config].	Default: 0 Min/Max: 32 bits of data	✓	RW	32-bit Boolean																		
1068	Logic 2A Bit Selects the bit of Par 1067 [Logic 2A Data] for the first input to Logic Block 2. Note: To invert the selected input enter the desired bit as negative. Use -32 to invert bit 0.	Default: 0 Min/Max: -31/32		RW	16-bit Integer																		
1069	Logic 2B Data Selects the data word for the second input to Logic Block 2. See Par 1061 [Logic Config].	Default: 0 Min/Max: 32 bits of data	✓	RW	32-bit Boolean																		
1070	Logic 2B Bit Selects the bit of Par 1069 [Logic 2B Data] for the second input to Logic Block 2. Note: To invert the selected input enter the desired bit as negative. Use -32 to invert bit 0.	Default: 0 Min/Max: -31/32		RW	16-bit Integer																		
1071	Compare 1A Sets input A for the Compare 1 function. The compare function allows the user to compare two values. The results of the compare are displayed in Par 1062 [Logic/Cmpr State]. Available functions are (A <= B , A >= B).	Default: 0.0000 Min/Max: -/+22000000000.0000	✓	RW	Real																		
1072	Compare 1B Sets input B for the Compare 1. The compare functions allow the user to compare two values. The results of the compare are displayed in Par 1062 [Logic/Cmpr State]. Available functions are (A <= B , A >= B).	Default: 0.0000 Min/Max: -/+22000000000.0000	✓	RW	Real																		
1073	Compare 2A Sets input A for the Compare 2. The compare functions allow the user to compare two values. The results of the compare are displayed in Par 1062 [Logic/Cmpr State]. Available functions are (A <= B , A >= B).	Default: 0.0000 Min/Max: -/+22000000000.0000	✓	RW	Real																		
1074	Compare 2B Sets input B for the Compare 2. The compare functions allow the user to compare two values. The results of the compare are displayed in Par 1062 [Logic/Cmpr State]. Available functions are (A <= B , A >= B).	Default: 0.0000 Min/Max: -/+22000000000.0000	✓	RW	Real																		
1086	MOP Control Motor Operated Potentiometer (MOP) control and configuration. - Bit 0 "Increase", if set, increments the MOP level (output) from Par 1087 [MOP Rate] to Par 1088 [MOP High Limit]. - Bit 1 "Decrease", if set, decrements the MOP level (output) from Par 1087 [MOP Rate] to Par 1089 [MOP Low Limit]. - Bit 2 "Reset", if set, resets the MOP level (output) to zero and bit 0 "Increment" and bit 1 "Decrease" are inhibited. - Bit 3 "Reset @ Stop", if set, resets the MOP level (output) to zero when stop is set. - Bit 4 "Reset @ PwrLs", if set, resets the MOP level (output) to zero when power is lost. Note: If either bit 3 or bit 4 is not set, the MOP level (output) will be saved until bit 2 "Reset" is set. <table border="1"> <thead> <tr> <th>Options</th><th>Reset @ PwrLs</th><th>Reset @ Stop</th><th>Reset</th><th>Decrease</th><th>Increase</th></tr> </thead> <tbody> <tr> <td>Default</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr> <td>Bit</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr> </tbody> </table>					Options	Reset @ PwrLs	Reset @ Stop	Reset	Decrease	Increase	Default	0	0	0	0	0	Bit	4	3	2	1	0
Options	Reset @ PwrLs	Reset @ Stop	Reset	Decrease	Increase																		
Default	0	0	0	0	0																		
Bit	4	3	2	1	0																		
1087	MOP Rate Sets the rate of change (increment or decrement) for the MOP. The setting 0.1/sec will equate to an increment or decrement of 0.1 for every second active. If this is used for the speed reference, that equals 10% of base speed every second for a total of 10 seconds to reach base speed reference.	Default: 0.1000 s Min/Max: 0.0000/22000000000.0000 Units: s	✓	RW	Real																		
1088	MOP High Limit Sets the upper limit for the MOP output. The MOP cannot be incremented above this level.	Default: 1.0000 s Min/Max: 0.0000/22000000000.0000 Units: s	✓	RW	Real																		
1089	MOP Low Limit Sets the lower limit for the MOP output. The MOP cannot be decremented below this level.	Default: -1.0000 s Min/Max: -22000000000.0000/0.0000 Units: s	✓	RW	Real																		
1090	MOP Level Real Actual output value of the MOP as a real number. This value is also found in the speed reference selection. A value of 1.0 equals base motor speed.	Default: 0.0000 Min/Max: -/+22000000000.0000 Units: s		RO	Real																		
1091	MOP Scale Dint Set this value for scaling of the Dint MOP output. The MOP is calculated and controlled as a Real value MOP. Use this scaler to adjust for an integer value. Use this parameter to scale the conversion from Par 1090 [MOP Level Real] to Par 1092 [MOP Level Dint].	Default: 1.0000 Min/Max: -/+22000000000.0000	✓	RW	Real																		

No.	Name Description	Values	Linkable	Read-Write	Data Type
1092	MOP Level DInt Actual output value of the MOP as a DInt number. This value is scaled by Par 1091 [MOP Scale DInt].	Default: 0.0000 Min/Max: -/+2147483648		RO	32-bit Integer
1093 1094 1095	Anlg In1LossCnfg Anlg In2LossCnfg Anlg In3LossCnfg Selects drive action when an analog input signal loss is detected. Signal loss is defined as an analog signal less than 1 V or 2 mA. The signal loss event ends and normal operation resumes when the input signal is greater than or equal to 1.5 V or 3 mA. Note: This parameter was added for firmware version 3.001.	Default: 0 = "Disabled" Options: 0 = "Disabled" 4 = "Set Input Hi" 1 = "Fault" 5 = "Goto Preset1" 2 = "Hold Input" 6 = "Hold OutFreq" 3 = "Set Input Lo"			
1096	AddSub 1 Input Input value to be added to and/or subtracted from as need with the Add and Subtract function. This input will be added with Par 1097 [AddSub 1 Add]. The result will be subtracted from by the value in Par 1098 [AddSub 1 Subtrct]. The result of the operation is loaded to Par 1099 [AddSub 1 Result]. Equation: $\text{Par (1096 + Par 1097) - Par 1098 = Par 1099}$ Note: This parameter was added for firmware version 3.001.	Default: 1.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
1097	AddSub 1 Add This value is added to the value of Par 1096 [AddSub 1 Input]. The result will be subtracted from by Par 1098 and loaded into Par 1099 . See Par 1096 . Note: This parameter was added for firmware version 3.001.	Default: 1.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
1098	AddSub 1 Subtrct This value is subtracted from the result of Par 1096 + Par 1097 . The result will be loaded into Par 1099 . See Par 1096 . Note: This parameter was added for firmware version 3.001.	Default: 1.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
1099	AddSub 1 Result This is the result output from the Add and Subtract function. See Par 1096 . Equation: $\text{Par 1099 = (Par 1096 + Par 1097) - Par 1098}$ Note: This parameter was added for firmware version 3.001.	Default: 1.0000 Min/Max: -/+2200000000.0000		RO	Real
1100	AddSub 2 Input Input value to be added to and/or subtracted from as need with the Add and Subtract function. This input will be added with Par 1101 [AddSub 2 Add]. The result will be subtracted from by the value in Par 1102 [AddSub 2 Subtrct]. The result of the operation is loaded to Par 1103 [AddSub 2 Result]. Equation: $\text{Par (1100 + Par 1101) - Par 1102 = Par 1103}$ Note: This parameter was added for firmware version 3.001.	Default: 1.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
1101	AddSub 2 Add This value is added to the value of Par 1100 [AddSub 2 Input]. The result will be subtracted from by Par 1102 and loaded into Par 1103 . See Par 1100 . Note: This parameter was added for firmware version 3.001.	Default: 1.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
1102	AddSub 2 Subtrct This value is subtracted from the result of Par 1100 + Par 1101 . The result will be loaded into Par 1103 . See Par 1100 . Note: This parameter was added for firmware version 3.001.	Default: 1.0000 Min/Max: -/+2200000000.0000	✓	RW	Real
1103	AddSub 2 Result This is the result output from the Add and Subtract function. See Par 1100 . Equation: $\text{Par 1103 = (Par 1100 + Par 1101) - Par 1102}$ Note: This parameter was added for firmware version 3.001.	Default: 1.0000 Min/Max: -/+2200000000.0000		RO	Real
1104	AddSub 3 Input Input value to be added to and/or subtracted from as need with the Add and Subtract function. This input will be added with Par 1105 [AddSub 3 Add]. The result will be subtracted from by the value in Par 1106 [AddSub 3 Subtrct]. The result of the operation is loaded to Par 1107 [AddSub 3 Result]. Equation: $\text{Par (1104 + Par 1105) - Par 1106 = Par 1107}$ Note: This parameter was added for firmware version 3.001.	Default: 1.0000 Min/Max: -/+2200000000.0000	✓	RW	Real

No.	Name Description	Values	Linkable	Read-Write	Data Type											
1105	AddSub 3 Add This value is added to the value of Par 1104 [AddSub 3 Input]. The result will be subtracted from by Par 1106 and loaded into Par 1107 . See Par 1104. Note: This parameter was added for firmware version 3.001.	Default: 1.0000 Min/Max: -/+2200000000.0000	✓	RW	Real											
1106	AddSub 3 Subtrct This value is subtracted from the result of Par 1104 + Par 1105 . The result will be loaded into Par 1107 . See Par 1104 Note: This parameter was added for firmware version 3.001.	Default: 1.0000 Min/Max: -/+2200000000.0000	✓	RW	Real											
1107	AddSub 3 Result This is the result output from the Add and Subtract function. See Par 1104. Equation: Par 1107 = (Par 1104 + Par 1105) - Par 1106 Note: This parameter was added for firmware version 3.001.	Default: 1.0000 Min/Max: -/+2200000000.0000		RO	Real											
1108	DelTmr1 TrigData Link a word to this parameter that will control a user-defined on or off delay timer. The bit within the selected word that will control the delay timer is set by Par 1109 [DelTmr1 Trig Bit]. The user-defined on/off delay timer is enabled by setting bit 6 “Delay Timer” of Par 1000 [UserFuncn Enable].  Note: This parameter was added for firmware version 3.001.	Default: 0 Min/Max: 32 bits of data	✓	RW	32-bit Boolean											
1109	DelTmr1 Trig Bit Selects the bit, from the word linked to Par 1108 [DelTmr1 TrigData], that will change the status of the user-defined delay timer to on or off. When Par 1109 [DelTmr1 Trig Bit] is a positive number, the delay timer is an “on” timer. When Par 1109 is a negative number, the delay timer is an “off” timer. Note: This parameter was added for firmware version 3.001.	Default: 0 Min/Max: -/+32		RW	16-bit Integer											
1110	DelayTimer1PrSet The time that the value in Par 1111 [DelayTimer1Accum] must reach before bit 2 “Timer Done” in Par 1112 [DelayTimer1Stats] is set. Note: This parameter was added for firmware version 3.001.	Units: s Default: 0 Min/Max: 0/600.00	✓	RW	16-bit Integer											
1111	DelayTimer1Accum The amount of time that has elapsed since the timer was enabled (Par 1112 [DelayTimer1Stats], bit 2 set). Note: This parameter was added for firmware version 3.001.	Default: 0 Min/Max: 0/600.00 Units: s		RO	16-bit Integer											
1112	DelayTimer1Stats Displays the status of the user-defined on or off delay timer. Bit 0 “Timer Enable” when this bit is set, the timer is enabled. Bit 1 “Timer Timing” when this bit is set, the timer is running. Bit 2 “Timer Done” when this bit is set, the timer is done. Note: This parameter was added for firmware version 3.001.															
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	Reserved															
	Reserved															
	Timer Done															
	Timer Timing															
	Timer Enable															
Default	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	0
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	0 = False 1 = True															

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																						
1113	DelTmr2 TrigData Link a word to this parameter that will control a user-defined on or off delay timer. The bit within the selected word that will control the delay timer is set by Par 1114 [DelTmr2 Trig Bit]. The user-defined on/off delay timer is enabled by setting bit 6 “Delay Timer” of Par 1000 [UserFunct Enable]. DelayTimer 2Stats 00 Enabled 00 Timing 00 Done DelayTimer 2PrSet 1115 DelayTimer 2 Data 1113 DelayTimer 2 Bit 1114 Delay Timer 2 1117 1116 DelayTimer 2Accum Note: This parameter was added for firmware version 3.001.	Default: 0 Min/Max: 32 bits of data	✓	RW	32-bit Boolean																																																						
1114	DelTmr2 Trig Bit Selects the bit, from the word linked to Par 1113 [DelTmr2 TrigData], that will change the status of the user-defined delay timer to on or off. When Par 1114 [DelTmr2 Trig Bit] is a positive number, the delay timer is an “on” timer. When Par 1114 is a negative number, the delay timer is an “off” timer. Note: This parameter was added for firmware version 3.001.	Default: 0 Min/Max: -/+32	✓	RW	16-bit Integer																																																						
1115	DelayTimer2PrSet The time that the value in Par 1116 [DelayTimer2Accum] must reach before bit 2 “Timer Done” in Par 1117 [DelayTimer2Stats] is set. Note: This parameter was added for firmware version 3.001.	Default: 0 Min/Max: 0/60000 Units: s	✓	RW	16-bit Integer																																																						
1116	DelayTimer2Accum The amount of time that has elapsed since the timer was enabled (Par 1117 [DelayTimer2Stats], bit 1 set). Note: This parameter was added for firmware version 3.001.	Default: 0 Min/Max: 0/60000 Units: s		RO	16-bit Integer																																																						
1117	DelayTimer2Stats Displays the status of the user-defined on or off delay timer. Bit 0 “Timer Enable” when this bit is set, the timer is enabled. Bit 1 “Timer Timing” when this bit is set, the timer is running. Bit 2 “Timer Done” when this bit is set, the timer is done. Note: This parameter was added for firmware version 3.001. Options <table><tr><td></td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Timer Done</td><td>Timer Timing</td><td>Timer Enable</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td><td></td></tr></table> 0 = False 1 = True		Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Timer Done	Timer Timing	Timer Enable	Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	0	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0					
	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Timer Done	Timer Timing	Timer Enable																																										
Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	0																																										
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																											
1120	Home Accel Time Acceleration rate when Homing. Note: This parameter was added for firmware version 3.001.	Default: 10.00 Min/Max: 0.01/6553.50 Units: s	✓	RW	Real																																																						
1121	Home Decel Time Deceleration rate when Homing. Note: This parameter was added for firmware version 3.001.	Default: 10.00 Min/Max: 0.01/6553.50 Units: s	✓	RW	Real																																																						
1122	Home Speed Speed reference used when Homing. Notes: This parameter was added for firmware version 3.001. The default value was changed from “0.000” to “0.005” for firmware version 4.001.	Default: 0.005 Min/Max: -/+ 8.000 Units: rpm	✓	RW	Real																																																						
1123	Home Position User-defined Home position. After the Homing function is completed, the following parameters are updated with the value of Par 1123: Par 744 [PositRef EGR Out], Par 747 [Position Cmmnd], Par 763 [Position Actual] and Par 765 [Posit Actl Load]. Note: This parameter was added for firmware version 3.001. This parameter was activated for firmware version 4.001.	Default: 0 Min/Max: -/+ 2147483648	✓	RW	32-bit Integer																																																						
1124	Home Actual Pos Actual home position after the Homing function is complete. The value in this parameter displays the raw position feedback data at home position. Note: This parameter was added for firmware version 4.001.	Default: 0 Min/Max: -/+ 2147483648		RO	32-bit Integer																																																						

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																			
1125 A	DC Brake Level Defines the DC brake current level injected into the motor when “DC Brake” is selected as a stop mode. This also sets the braking current level when “Fast Stop” is selected. The DC braking voltage used in this function is created by a PWM algorithm and may not generate the smooth holding force needed for some applications. Refer to the <i>PowerFlex 700S with Phase II Control Reference Manual</i> , publication PFLEX-RM003. Notes: This parameter was added for firmware version 3.001, but is not functional (for future use). The maximum value was changed from 1170.0 to 3000.0 for firmware version 4.002.	Default: 0.0 Min/Max: 0.0/3000.0 Units: V	✓	RW	Real																																																			
ATTENTION: If a hazard of injury due to movement of equipment or material exists, an auxiliary mechanical braking device must be used. ATTENTION: This feature should not be used with synchronous or permanent magnet motors. Motors may be demagnetized during braking.																																																								
1126 A	DC Brake Time Sets the amount of time DC brake current is “injected” into the motor. Note: This parameter was added for firmware version 3.001, but is not functional (for future use).	Default: 0.0 Min/Max: 0.0/655.0 Units: s	✓	RW	Real																																																			
1130	PPMP Pos Command Sets the position reference for the Motion Planner. The units are counts. Note: This parameter was added for firmware version 3.001.	Default: 0 Min/Max: -/+ 2147483648	✓	RW	32-bit Integer																																																			
1131	PPMP Pos Mul Part of the input scale block. Set this value as the multiplier to the value of Par 1130 [PPMP Pos Command]. Also see Par 1132 [PPMP Pos Div]. The scale block is enabled by setting bit 4 of Par 1134 [PPMP Control]. The the intermediate product must be < 31 bits. Note: This parameter was added for firmware version 3.001.	Default: 1 Min/Max: 1/2000000	✓	RW	32-bit Integer																																																			
1132	PPMP Pos Div Part of input scale block. Set this value as the divisor of the product of Par 1130 [PPMP Pos Command] and Par 1131 [PPMP Pos Mul]. Integer math applies. The scale block is enabled by setting bit 4 of Par 1134 [PPMP Control]. Note: This parameter was added for firmware version 3.001.	Default: 1 Min/Max: 1/2000000	✓	RW	32-bit Integer																																																			
1133	PPMP Scaled Cmd Indicates the result of integer scaling of the position reference for the Motion planner or the Position loop. The units are counts. Note: This parameter was added for firmware version 3.001.	Default: 0 Min/Max: -/+ 2147483648		RO	32-bit Integer																																																			
1134	PPMP Control Establishes the operating condition for the Motion Planner. The operating mode(s) is selected if the corresponding bit is set. Bit 0 “Absolute” Absolute mode. When using the Homing function while in Absolute mode, the value in Par 758 [Pt-Pt Posit Ref] must be set relative to the value in Par 763 [Position Actual] after homing is complete. For example: When homing is complete Par 763 [Position Actual] = 1000 counts. If you want to move to an absolute position of 2000 counts relative to the home switch, you must enter a value of 3000 counts into Par 758 [Pt-Pt Posit Ref] (i.e., 1000 + 2000 = 3000). If you want to move back to the home switch, using the same value in Par 763 [Position Actual] after homing (1000), you must enter a value of 1000 into Par 758 [Pt-Pt Position Ref] (i.e., 0 + 1000 = 1000). • Bit 1 “Incremental” Incremental mode • Bit 2 “Start” Start • Bit 4 “Scaling En” Scaling enabled • Bit 5 “Over Ride En” Override enabled • Bit 6 “S Curve En” S Curve Enabled • Bit 7 “Cond Hold” Conditional Hold • Bit 8 “Pause” Pause • Bit 9 “Re-Synch” Re-Synch Note: This parameter was added for firmware version 3.001.																																																							
<table><tr><td>Options</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Re-Synch</td><td>Pause</td><td>Cond Hold</td><td>S Curve En</td><td>Over Ride En</td><td>Scaling En</td><td>Reserved</td><td>Start</td><td>Incremental</td><td>Absolute</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>x</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True						Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Re-Synch	Pause	Cond Hold	S Curve En	Over Ride En	Scaling En	Reserved	Start	Incremental	Absolute	Default	x	x	x	x	x	x	0	0	0	0	0	0	x	0	0	0	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Re-Synch	Pause	Cond Hold	S Curve En	Over Ride En	Scaling En	Reserved	Start	Incremental	Absolute																																								
Default	x	x	x	x	x	x	0	0	0	0	0	0	x	0	0	0																																								
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																								

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																		
1135	PPMP Status Displays the current operating status of the Motion Planner. Note: This parameter was added for firmware version 3.001. <table><tr><td>Options</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Running</td><td>Done</td><td>Zero Speed</td><td>Re-Synch</td><td>Pause</td><td>Cond Hold</td><td>S Curve En</td><td>Over Ride En</td><td>Scaling En</td><td>Reserved</td><td>Start</td><td>Incremental</td><td>Absolute</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>x</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> 0 = False 1 = True	Options	Reserved	Reserved	Reserved	Running	Done	Zero Speed	Re-Synch	Pause	Cond Hold	S Curve En	Over Ride En	Scaling En	Reserved	Start	Incremental	Absolute	Default	x	x	x	0	0	0	0	0	0	0	0	0	x	0	0	0	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			
Options	Reserved	Reserved	Reserved	Running	Done	Zero Speed	Re-Synch	Pause	Cond Hold	S Curve En	Over Ride En	Scaling En	Reserved	Start	Incremental	Absolute																																							
Default	x	x	x	0	0	0	0	0	0	0	0	0	x	0	0	0																																							
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																							
1136	PPMP Rev Spd Lim Sets the maximum reverse speed reference limit. Notes: This parameter was added for firmware version 3.001. Changed the default value and made the parameter linkable for firmware version 4.001.	Default: -0.5 Min/Max: -/+ 8.0 Units: rpm	✓	RW	Real																																																		
1137	PPMP Fwd Spd Lim Sets the maximum forward speed reference limit. Note: This parameter was added for firmware version 3.001. Changed the default value and made the parameter linkable for firmware version 4.001.	Default: +0.5 Min/Max: -/+ 8.0 Units: rpm	✓	RW	Real																																																		
1138	PPMP Over Ride Multiplies both forward (Par 1136 [PPMP Rev Spd Lim]) and reverse (Par 1137 [PPMP Fwd Spd Lim]) speed limits by this value. Note: This parameter was added for firmware version 3.001. Changed the default value, minimum value and made the parameter linkable for firmware version 4.001.	Default: 1.0 Min/Max: 0.0/1.5	✓	RW	Real																																																		
1139	PPMP Accel Time Sets the ramp time for acceleration (time to go from zero to full speed). Note: This parameter was added for firmware version 3.001.	Default: 10.00 Min/Max: 0.01/6553.50 Units: s	✓	RW	Real																																																		
1140	PPMP Decel Time Sets the ramp time for deceleration (time to go from full speed to zero speed). Note: This parameter was added for firmware version 3.001.	Default: 10.00 Min/Max: 0.01/6553.50 Units: s	✓	RW	Real																																																		
1141	PPMP SCurve Time Sets the amount of time that is applied to the S Curve. Half of the time specified is added at the beginning and half end of the acceleration and deceleration ramp. Note: This parameter was added for firmware version 3.001.	Default: 0.05 Min/Max: 0.00/4.00 Units: s	✓	RW	Real																																																		
1142	PPMP Spd Output Provides a speed reference output from the Motion Planner. Typically this parameter would be used by the drives speed loop. A link could be made from a velocity reference input to this parameter. Note: This parameter was added for firmware version 3.001.	Default: 0.0 Min/Max: -/+ 8.0 Units: rpm		RO	Real																																																		
1143	PPMP Pos Output Provides a position reference output from the Motion Planner. This output is scaled in counts. Typically this parameter would be used by the drive's Position Loop. A link could be made from auxiliary position input to this parameter. Note: This parameter was added for firmware version 3.001.	Default: 0.0 Min/Max: -/+ 2147483648.0		RO	Real																																																		
1144	PPMP Pos To Go Provides indication of feedback counts remaining in the move. Note: This parameter was added for firmware version 3.001.	Default: 0.0 Min/Max: -/+ 2147483648.0		RO	Real																																																		
1145	PPMP TP Select Motion Planner test point selection. Notes: This parameter was added for firmware version 3.001. Selection 9 was changed to "Reserved" for firmware version 4.001.	Default: 0 = "Zero" Options: 0 = "Zero" 1 = "MP FrctAccm1" 2 = "MP WholeAccm" 3 = "MP EPR" 4 = "MP NBase" 5 = "MP Once Flag" 6 = "MP Pos Fdbk" 7 = "MP Pos Fdbk1" 8 = "MP ErrorSum" 9 = "Reserved" 10 = "MP IntegHold" 11 = "MP Pos Exact" 12 = "MP Pos Diff" 13 = "MP One Shot" 14 = "MP Run Delay" 15 = "MP ResyncOne" 16 = "MP Task Time" 17 = "MP Mtn Calc" 18 = "MP AnlgPulse" 19 = "MP Rate In" 20 = "MP Rate Out" 21 = "MP Gain" 22 = "MP Kx" 23 = "MP FrctAccmR" 24 = "MP AccelRate" 25 = "MP DecelRate" 26 = "MP Cal" 27 = "SC Sum" 28 = "SC Index" 29 = "SC ArraySize" 30 = "SC Once" 31 = "SC Enable" 32 = "SC lpos"																																																					

No.	Name Description	Values	Linkable	Read-Write	Data Type																																																																					
1146	PPMP TP DataDInt Test point integer data. This data is meaningful only if the selection at Par 1145 [PPMP TP Select] is integer data. Note: This parameter was added for firmware version 3.001.	Default: 0.0 Min/Max: -/+ 2147483648.0		RO	32-bit Integer																																																																					
1147	PPMP TP DataReal Test point real data. This data is meaningful only if the selection at Par 1145 [PPMP TP Select] is not integer data. Note: This parameter was added for firmware version 3.001.	Default: 0.0 Min/Max: -/+2200000000.0		RO	Real																																																																					
1150	DInt2Real2 In Input value for a second DInt to Real value conversion. Note: This parameter was added for firmware version 3.001.	Default: 0 Min/Max: -/+2147483648.0	✓	RW	32-bit Integer																																																																					
1151	DInt2Real2 Scale Input value to scale the second conversion from DInt to Real. This is a multiplication to the input value after conversion to a Real value. Note: This parameter was added for firmware version 3.001.	Default: 0.0 Min/Max: -/+2200000000.0	✓	RW	Real																																																																					
1152	DInt2Real2Result This is the resultant output of the second conversion form a DInt value to a Real value after scaling. Note: This parameter was added for firmware version 3.001.	Default: 0.0 Min/Max: -/+2200000000.0		RO	Real																																																																					
1155	Heidn VM Pos Ref Virtual Master position reference for the Heidenhain option card. This value is used by the Virtual Master function as a position reference. This parameter can be linked to a position reference source, such as Par 1160 [VirEncPositFast]. Note: This parameter was added for firmware version 4.001.	Default: 0.0 Min/Max: -/+2147483648.0	✓	RW	32-bit Integer																																																																					
1156	 Heidn VM Enc PPR Virtual Master Encoder Pulse per Revolution (PPR). This value defines the encoder PPR for the Virtual Master function. The Heidenhain option card produces the encoder pulse according to this PPR value, which is limited to 1024 or 2048 encoder lines. Note: This parameter was added for firmware version 4.001.	Default: 1024 Min/Max: 1024 and 2048 only Units: PPR		RW	32-bit Integer																																																																					
1160	VirtEncPositFast Virtual Encoder position output in Task 1. One of three outputs from the Virtual Encoder function. This value is the encoder position reference output for Task1 (fast rate). Par 62 [Virt Encdr Posit] and Par 63 [Virt Encdr Dlyed] are the encoder position output in Task 2. For the Virtual Master Encoder function, you must use Par 1160 [VirEncPosiFast] as the position reference updated in Task 1. Note: This parameter was added for firmware version 4.001.	Default: 0.0 Min/Max: -/+2147483648.0		RO	32-bit Integer																																																																					
1161	EGR Config Configuration for the Electrical Gear Ratio (EGR) user function. Setting bit 7 “EGR” of Par 1000 [UserFunct Enable] enables the EGR user function. The combination of bit 0 “Output Sel 0” and bit 1 “Output Sel 1” determines the output of the EGR user function as follows: <table><tr><th>Bit 1</th><th>Bit 0</th><th>Description</th></tr><tr><td>0</td><td>0</td><td>Par 1165 [EGR Pos Output] is set to zero</td></tr><tr><td>0</td><td>1</td><td>Par 1165 [EGR Pos Output] is active</td></tr><tr><td>1</td><td>0</td><td>Par 1165 [EGR Pos Output] is set to the value of Par 1164 [EGR Pos Input]</td></tr><tr><td>1</td><td>1</td><td>Par 1165 [EGR Pos Output] is set to the value of Par 1166 [EGR Pos preset]</td></tr></table> Note: This parameter was added for firmware version 4.001. <table><tr><td>Options</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Output Sel 1</td><td>Output Sel 0</td></tr><tr><td>Default</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td><td>0</td></tr></table> 0 = False 1 = True					Bit 1	Bit 0	Description	0	0	Par 1165 [EGR Pos Output] is set to zero	0	1	Par 1165 [EGR Pos Output] is active	1	0	Par 1165 [EGR Pos Output] is set to the value of Par 1164 [EGR Pos Input]	1	1	Par 1165 [EGR Pos Output] is set to the value of Par 1166 [EGR Pos preset]	Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Output Sel 1	Output Sel 0	Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	0
Bit 1	Bit 0	Description																																																																								
0	0	Par 1165 [EGR Pos Output] is set to zero																																																																								
0	1	Par 1165 [EGR Pos Output] is active																																																																								
1	0	Par 1165 [EGR Pos Output] is set to the value of Par 1164 [EGR Pos Input]																																																																								
1	1	Par 1165 [EGR Pos Output] is set to the value of Par 1166 [EGR Pos preset]																																																																								
Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Output Sel 1	Output Sel 0																																																									
Default	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0																																																									
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	0																																																									
1162	EGR Mul Multiplier (numerator) of the EGR user function position input. Par 1164 [EGR Pos Input] x Par 1162 [EGR Mul]) / Par 1163 [EGR Div] = Par 1165 [EGR Pos Output] Note: This parameter was added for firmware version 4.001.	Default: 1.0 Min/Max: -/+2000000.0	✓	RW	32-bit Integer																																																																					
1163	EGR Div Divisor (denominator) of the EGR user function position input. Par 1164 [EGR Pos Input] x Par 1162 [EGR Mul]) / Par 1163 [EGR Div] = Par 1165 [EGR Pos Output] Note: This parameter was added for firmware version 4.001.	Default: 1.0 Min/Max: +1.0/+2000000.0	✓	RW	32-bit Integer																																																																					

No.	Name Description	Values	Linkable	Read-Write	Data Type
1164	EGR Pos Input Position reference input to the Electrical Gear Ratio user function. This parameter can be linked to a position reference source, such as Par 1160 [VirtEncPositFast]. Note: This parameter was added for firmware version 4.001.	Default: 0.0 Min/Max: +/-2147483648.0	✓	RW	32-bit Integer
1165	EGR Pos Output Position reference output from the Electrical Gear Ratio user function. This parameter can be linked to a position reference sink, such as Par 1155 [Heidn VM Pos Ref]. Note: This parameter was added for firmware version 4.001.	Default: 0.0 Min/Max: +/-2147483648.0		RO	32-bit Integer
1166	EGR Pos Preset A preset value for the Electrical Gear Ratio user function. This value is set to the value in Par 1165 [EGR Pos Output] when bits 0 "Output Sel 0" and 1 "Output Sel 1" of Par 1161 [EGR Config] are set. Note: This parameter was added for firmware version 4.001.	Default: 0.0 Min/Max: +/-2147483648.0	✓	RW	32-bit Integer
1170	MC Generic 1 For Future Use. Note: This parameter was added for firmware version 4.001.	Default: 0 Min/Max: +/-32767		RW	16-bit Integer
1171	MC Generic 2 For Future Use. Note: This parameter was added for firmware version 4.001.	Default: 0 Min/Max: +/-32767		RW	16-bit Integer
1172	MC Generic 3 For Future Use. Note: This parameter was added for firmware version 4.001.	Default: 0 Min/Max: +/-32767		RW	16-bit Integer
1173	MC Generic 4 For Future Use. Note: This parameter was added for firmware version 4.001.	Default: 0 Min/Max: +/-32767		RW	16-bit Integer
1174	MC Generic 5 For Future Use. Note: This parameter was added for firmware version 4.001.	Default: 0 Min/Max: +/-32767		RW	16-bit Integer
1175	MC Generic 6 For Future Use. Note: This parameter was added for firmware version 4.001.	Default: 0 Min/Max: +/-32767		RW	16-bit Integer
1176	MC Generic 7 For Future Use. Note: This parameter was added for firmware version 4.001.	Default: 0 Min/Max: +/-32767		RW	16-bit Integer
1177	MC Generic 8 For Future Use. Note: This parameter was added for firmware version 4.001.	Default: 0 Min/Max: +/-32767		RW	16-bit Integer
1178	MC Generic 9 For Future Use. Note: This parameter was added for firmware version 4.001.	Default: 0 Min/Max: +/-32767		RW	16-bit Integer
1179	MC Generic 10 For Future Use. Note: This parameter was added for firmware version 4.001.	Default: 0 Min/Max: +/-32767		RW	16-bit Integer

Parameter Cross Reference By Name

Param Name Text	Parameter #
% Motor Flux	309
+Hrd OvrTrvlCnfg	397
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Act Spd Reg BW	97
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AddSub 1 Input	1096
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AddSub 2 Input	1100
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Anlg In1 Filt BW	805
Anlg In1 Offset	803
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Anlg In1 Value	801
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Anlg In2 Filt BW	811
Anlg In2 Offset	809
Anlg In2 Scale	808
Anlg In2 Value	807
Anlg In2LossCnfg	1094
Anlg In3 Data	812
Anlg In3 Filt BW	817
Anlg In3 Offset	815
Anlg In3 Scale	814
Anlg In3 Value	813
Anlg In3LossCnfg	1095
Anlg Out1 DInt	832
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Anlg Out1 Scale	835
Anlg Out1 Sel	831
Anlg Out1 Value	837
Anlg Out1 Zero	836
Anlg Out2 DInt	839
Anlg Out2 Offset	841
Anlg Out2 Real	840
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Anlg Out2 Sel	838
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BitSwap 2A Data	865
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BitSwap 2B Data	867
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BitSwap 3A Bit	871
BitSwap 3A Data	870
BitSwap 3B Bit	873
BitSwap 3B Data	872
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BitSwap 4A Bit	876
BitSwap 4A Data	875
BitSwap 4B Bit	878
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BitSwap 5A Bit	881
BitSwap 5A Data	880
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BitSwap 6B Data	887
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Bus Reg Kd	547
Bus Reg Ki	545
Bus Reg Kp	546
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DelayTimer1PrSet	1110
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DelayTimer2PrSet	1115
DelayTimer2Stats	1117
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DelTmr1 TrigData	1108
DelTmr2 Trig Bit	1114
DelTmr2 TrigData	1113
DeltaSpeedScale	60
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Dig Out1 On Time	848
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Param Name Text	Parameter #	Param Name Text	Parameter #	Param Name Text	Parameter #
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Dig Out2 On Time	853	Est Theta Delay	477	FromDriveLogix10	612
Dig Out2 Sel	850	Estimated Torque	471	FromDriveLogix11	613
DigIn ConfigStat	159	Exception Event1	320	FromDriveLogix12	614
DigIn Debounce	823	Exception Event2	321	FromDriveLogix13	615
DInt2Real1 In	1047	Exception Event3	322	FromDriveLogix14	616
DInt2Real1 Scale	1048	External DB Res	544	FromDriveLogix15	617
DInt2Real1Result	1049	Ext Flt/Alm Cnfg	379	FromDriveLogix16	618
DInt2Real2 In	1150	Fault Clr Mask	674	FromDriveLogix17	619
DInt2Real2 Scale	1151	Fault Clr Owner	681	FromDriveLogix18	620
DInt2Real2Result	1152	Fault Status 1	323	FromDriveLogix19	621
Direction Mask	673	Fault Status 2	324	FromDriveLogix20	622
Direction Owner	680	Fault Status 3	325	FVC CEMF Comp	469
DPI CommLoss Cfg	391	Fault TP Data	330	FVC Mode Config	510
DPI Data In A1	651	Fault TP Sel	329	FVC Tune Config	515
DPI Data In A2	652	FB Opt0 Posit	250	FVC2 Mode Config	511
DPI Data In B1	653	FB Opt0 Spd Fdbk	251	FVC2 Tune Config	516
DPI Data In B2	654	FB Opt1 Posit	252	FW Functions En	147
DPI Data In C1	655	FB Opt1 Spd Fdbk	253	FW FunctionsActl	149
DPI Data In C2	656	Fdbk LsCnfg Alt	366	FW TaskTime Actl	148
DPI Data In D1	657	Fdbk LsCnfg Pri	365	FW TaskTime Sel	146
DPI Data In D2	658	Fdbk LsCnfgPosit	367	Fwd Speed Limit	76
DPI Data Out A1	660	Fdbk Option ID	249	Hardware Present	145
DPI Data Out A2	661	FdbkAxis FdbkSel	701	Heatsink Temp	313
DPI Data Out B1	662	FdbkAxis FdbkVal	702	Heidenhain0 Cnfg	263
DPI Data Out B2	663	FdbkAxis RotFdbk	709	Heidenhain0 Stat	264
DPI Data Out C1	664	FdbkAxisUnwdFdbk	710	Heidn Encdr PPR	267
DPI Data Out C2	665	Filtered SpdFdbk	71	Heidn Encdr Type	266
DPI Data Out D1	666	Flux Current	488	Heidn Mkr Offset	265
DPI Data Out D2	667	Flux Rate Limit	425	Heidn VM Enc PPR	1155
DPI In DataType	650	Flux Ratio Ref	424	Heidn VM Pos Ref	1156
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Drive Logic Rslt	158	Flux Reg P Gain1	443	Home Accel Time	1120
Drive OL JnctTmp	345	Flux Reg P Gain2	470	Home Actual Pos	1124
Drive OL Status	346	Flux Satur Coef	426	Home Decel Time	1121
Drive OL TP Data	348	Flx CurFdbk (Id)	489	Home Position	1123
Drive OL TP Sel	347	Flx LpassFilt BW	361	Home Speed	1122
Drive Ramp Rslt	53	Flying StartGain	170	-Hrd OvrTrvlCnfg	398
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EGR Pos Preset	1166	FricComp Trq Add	69	Ids Reg P Gain	430
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Encdr0 Position	230	FromDriveLogix03	605	Inert Adapt Sel	132
Encdr0 Spd Fdbk	231	FromDriveLogix04	606	Inertia SpeedRef	56
Encdr1 Position	240	FromDriveLogix05	607	Inertia Trq Add	59
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Interp Speed	751	Logic 1A Data	1063	MOP Rate	1087
Interp Synclnput	693	Logic 1B Bit	1066	MOP Scale Dint	1091
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Iq Actual Lim	353	Logic 2B Bit	1070	Motn Cnct Status	690
Iq Actual Ref	350	Logic 2B Data	1069	Motn CoarseMulti	685
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Iq Ref Limited	355	Logic Config	1061	Motn Event Ctrl	692
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Iqs Command	495	Logic Mask	670	Motn Mx Neg Trvl	695
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Ireg IGain Fctr	428	Logic TP Data	162	Motn PositErrTol	696
Is Actual Lim	352	Logic TP Sel	161	Motn RotaryCmmd	705
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Jog Owner	679	Maximum Voltage	531	MotnPositLockTol	697
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Leak Indc Satur2	494	MC Diag Status	518	Motor Freq Ref	296
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Lgx Closed Cnfg	388	MC Firmware Rev	457	Motor NP Power	5
Lgx Comm Format	600	MC Generic 1	1170	Motor NP RPM	4
Lgx CommLossData	385	MC Generic 2	1171	Motor NP Volts	1
Lgx LinkChngCnfg	389	MC Generic 3	1172	Motor NTC Coef	487
Lgx OutOfRunCnfg	386	MC Generic 4	1173	Motor OL Factor	336
Lgx Timeout Cnfg	387	MC Generic 5	1174	Motor Poles	7
LimGen X axis In	206	MC Generic 6	1175	Motor Posit Est	227
LimGen Y axis Mn	205	MC Generic 7	1176	Motor Spd Fdbk	300
LimGen Y axis Mx	204	MC Generic 8	1177	Motor Speed Est	226
Limit Gen Hi Out	207	MC Generic 9	1178	Motor Speed Ref	301
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Mtr I2T Count	341	PI Integ Time	187	Posit Offset 2	754
Mtr I2T Curr Min	337	PI Lower Limit	192	Posit Offset Spd	755
Mtr I2T Spd Min	338	PI Lpass Filt BW	184	Posit Spd Output	318
Mtr I2T Trp ThrH	340	PI Output	180	Posit TP Select	737
Mtr NP Pwr Units	6	PI Preload	185	PositDetct1 Stpt	780
Mtr OL Pend Cnfg	372	PI Prop Gain	186	PositDetct2 Stpt	781
Mtr OL Trip Cnfg	371	PI Reference	181	Position Actual	763
Mtr Trq Curr Ref	305	PI TP Data	179	Position Cmmnd	747
Mtr Vds Base	434	PI TP Sel	178	Position Control	740
Mtr Vqs Base	435	PkDtct1 In DInt	212	Position ErrCnfg	399
Mtring Power Lim	127	PkDtct1 In Real	213	Position Error	769
MtrPosit Simulat	229	PkDtct2 In DInt	216	Position Fdbk	762
MtrSpd Simulated	228	PkDtct2 In Real	217	Position Ref Sel	742
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MulDiv 1 Input	1053	PLL Control	720	PositionFdbk Sel	777
MulDiv 1 Mul	1054	PLL EPR Input	725	PositRef EGR Div	746
MulDiv 1 Result	1056	PLL EPR Output	726	PositRef EGR Mul	745
MulDiv 2 Div	1059	PLL Ext Spd Ref	728	PositRef EGR Out	744
MulDiv 2 Input	1057	PLL Ext SpdScale	729	PositReg Droop	771
MulDiv 2 Mul	1058	PLL LPFilter BW	730	PositReg Integ	770
MulDiv 2 Result	1060	PLL FiltPositOut	733	PositReg P Gain	768
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Normal Stop Mode	168	PLL Posit OutAdv	732	PositTP DataReal	739
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NotchAttenuation	117	PLL Rev Input	723	Power EE TP Sel	412
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Nth CompOff Freq	534	PLL Speed Out	734	Power Loss Mode	406
Nth Phase Shift	596	PLL SpeedOut Adv	735	Power Loss Time	407
Nth Torq Compen	594	PLL TP DataDInt	718	PPMP Accel Time	1139
OL ClsLp CurrLim	344	PLL TP DataReal	719	PPMP Control	1134
OL OpnLp CurrLim	343	PLL TP Select	717	PPMP Decel Time	1140
Opt 0 Regis Ltch	257	PLL VirtEncdrRPM	727	PPMP Fwd Spd Lim	1137
Opt 1 Regis Ltch	258	PM AbsEncd Offst	504	PPMP Over Ride	1138
Opt0/1 RegisCnfg	254	PM D Inductance	521	PPMP Pos Command	1130
Opt0/1 RegisCtrl	255	PM Mtr CEMF Coef	523	PPMP Pos Div	1132
Opt0/1 RegisStat	256	PM Mtr CEMF Comp	427	PPMP Pos Mul	1131
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Output Current	308	PM Stator Resist	522	PPMP Pos To Go	1144
Output Freq	310	PM Test Freq Ref	508	PPMP Rev Spd Lim	1136
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PeakDtct Ctrl In	210	PMag Tune Config	517	PPMP TP DataReal	1147
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PeakDtct2 Preset	218	Posit Detct1 In	784	PreChrg Control	411
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PI Feedback	182	Posit FB EGR Div	767	PreChrg TimeOut	410
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PI Integ HLim	188	Posit Gear Ratio	796	Preset Speed 2	15
PI Integ LLim	189	Posit Load Fdbk	764	Preset Speed 3	16

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Preset Speed 5	18	Sel Swtch In05	1034	SL Buf Data Rx18	952
Preset Speed 6	19	Sel Swtch In06	1035	SL Buf Data Rx19	953
Preset Speed 7	20	Sel Swtch In07	1036	SL Buf Data Rx20	954
Pt-Pt Accel Time	759	Sel Swtch In08	1037	SL Buf Data Rx21	955
Pt-Pt Decel Time	760	Sel Swtch In09	1038	SL Buf Data Rx22	956
Pt-Pt Filt BW	761	Sel Swtch In10	1039	SL Buf Data Rx23	957
Pt-Pt Posit Ref	758	Sel Swtch In11	1040	SL Buf Data Rx24	958
PWM Frequency	402	Sel Swtch In12	1041	SL Buf Data Rx25	959
Pwr Strct Mode	420	Sel Swtch In13	1042	SL Buf Data Rx26	960
Ramped Spd Ref	43	Sel Swtch In14	1043	SL Buf Data Rx27	961
Rated Amps	400	Sel Swtch In15	1044	SL Buf Data Rx28	962
Rated Slip Freq	486	Selected Spd Ref	40	SL Buf Data Rx29	963
Rated Volts	401	Selected SpdRefA	49	SL Buf Data Tx00	970
Real2DInt In	1050	Selected SpdRefB	50	SL Buf Data Tx01	971
Real2DInt Result	1052	Selected Trq Ref	319	SL Buf Data Tx02	972
Real2DInt Scale	1051	SelSwtch DIntOut	1046	SL Buf Data Tx03	973
Regen Power Lim	128	SelSwtch RealOut	1045	SL Buf Data Tx04	974
RegisLtch0 Value	235	SrLssAngleStblty	537	SL Buf Data Tx05	975
RegisLtch0/1Cnfg	236	SrLss VoltStblty	538	SL Buf Data Tx06	976
RegisLtch0/1Ctrl	237	SrLss StbltyFilt	539	SL Buf Data Tx07	977
RegisLtch0/1Stat	238	Servo Lock Gain	85	SL Buf Data Tx08	978
RegisLtch1 Value	239	Set Speed Lim	171	SL Buf Data Tx09	979
Reslvr0 CableBal	276	Setpt 1 Data	172	SL Buf Data Tx10	980
Reslvr0 Carrier	273	Setpt 1 Limit	174	SL Buf Data Tx11	981
Reslvr0 In Volts	274	Setpt 2 Data	175	SL Buf Data Tx12	982
Reslvr0 SpdRatio	272	Setpt 2 Limit	177	SL Buf Data Tx13	983
Reslvr0 TP Data	271	Setpt1 TripPoint	173	SL Buf Data Tx14	984
Reslvr0 TP Sel	270	Setpt2 TripPoint	176	SL Buf Data Tx15	985
Reslvr0 Type Sel	277	-Sft OvrTrvlCnfg	396	SL Buf Data Tx16	986
Resolver0 Cnfg	268	Skip Speed 1	136	SL Buf Data Tx17	987
Resolver0 Status	269	Skip Speed 2	137	SL Buf Data Tx18	988
Rev Speed Limit	75	Skip Speed 3	138	SL Buf Data Tx19	989
Rly Out3 Bit	857	Skip Speed Band	139	SL Buf Data Tx20	990
Rly Out3 Data	856	SL BOF Err Accum	896	SL Buf Data Tx21	991
Rly Out3 OffTime	859	SL BOF Err Limit	899	SL Buf Data Tx22	992
Rly Out3 On Time	858	SL BOF Error	897	SL Buf Data Tx23	993
Rly Out3 Sel	855	SL Buf Data Rx00	934	SL Buf Data Tx24	994
Rotor Resistance	502	SL Buf Data Rx01	935	SL Buf Data Tx25	995
Rslvr0 XfrmRatio	275	SL Buf Data Rx02	936	SL Buf Data Tx26	996
RsTempCoefAdjust	590	SL Buf Data Rx03	937	SL Buf Data Tx27	997
RsTmpCoefAdjstEn	591	SL Buf Data Rx04	938	SL Buf Data Tx28	998
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Rx Buf Data Type	933	SL Buf Data Rx06	940	SL Clr Events	916
Rx Dir Data Type	928	SL Buf Data Rx07	941	SL Comm TP Data	893
S Curve Time	34	SL Buf Data Rx08	942	SL Comm TP Sel	892
Saved Events	436	SL Buf Data Rx09	943	SL CommLoss Cnfg	384
Scaled Spd Fdbk	72	SL Buf Data Rx10	944	SL CommLoss Data	383
Scaled Spd Ref	46	SL Buf Data Rx11	945	SL CRC Err Accum	894
Sel Switch Ctrl	1022	SL Buf Data Rx12	946	SL CRC Err Limit	898
Sel Swtch In00	1029	SL Buf Data Rx13	947	SL CRC Error	895
Sel Swtch In01	1030	SL Buf Data Rx14	948	SL Dir Data Rx00	929
Sel Swtch In02	1031	SL Buf Data Rx15	949	SL Dir Data Rx01	930
Sel Swtch In03	1032	SL Buf Data Rx16	950	SL Dir Data Rx02	931

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SL Dir Data Tx00	965	Spd Fdbk TP RPM	246	SrvoAxis RotFdbk	707
SL Dir Data Tx01	966	Spd Fdbk TP Sel	245	SrvoAxisUnwdFdbk	708
SL Dir Data Tx02	967	Spd Ref Bypass	37	Start/Acc Boost	527
SL Dir Data Tx03	968	Spd Ref Bypass2	48	Start Inhibits	156
SL Error History	903	Spd Ref TP Data	79	Start Mask	671
SL Error Status	902	Spd Ref TP RPM	78	Start Owner	678
SL Mult A In	924	Spd Ref TP Sel	77	Start/Acc Boost	527
SL Mult B In	925	Spd Ref1 Divide	11	Startup State	452
SL Mult Base	923	Spd Ref2 Multi	13	Stator Frequency	526
SL Mult Out	926	Spd Reg BW	90	StatorInductance	490
SL Mult State	927	Spd Reg Damping	91	StatorResistance	491
SL MultErr Cnfg	390	Spd Reg Droop	86	Steg&Heidn TPDta	262
SL Node Cnfg	904	Spd Reg I Gain	82	Steg&Heidn TPSel	261
SL Rcv Events	915	Spd Reg Neg Lim	103	Stegmann0 Cnfg	259
SL Real2DInt In	921	Spd Reg P Gain	81	Stegmann0 Status	260
SL Real2DInt Out	922	Spd Reg PI Out	302	Stop Dwell Time	154
SL Rx CommFormat	905	Spd Reg Pos Lim	102	Stop Oper TP Sel	163
SL Rx DirectSel0	906	Spd Reg TP Data	109	Stop Owner	677
SL Rx DirectSel1	907	Spd Reg TP Sel	108	StopOper TP Data	164
SL Rx DirectSel2	908	SpdRef + SpdTrm1	47	STrim2 Filt Gain	25
SL Rx DirectSel3	909	SpdRef Filt BW	36	Swthc DInt 1 NC	1026
SL Rx P0 Regis	917	SpdRef Filt Gain	35	Swthc DInt 1 NO	1027
SL Rx P1 Regis	918	SpdReg AntiBckup	84	Swthc DInt 1 Out	1028
SL System Rev	901	SpdReg Integ Out	101	Swthc Real 1 NC	1023
SL System Time	317	SpdReg P Gain Mx	92	Swthc Real 1 NO	1024
SL Tx CommFormat	910	SpdTrim 3 Scale	24	Swthc Real 1 Out	1025
SL Tx DirectSel0	911	SpdTrim2 Filt BW	26	SynchLink Rev	900
SL Tx DirectSel1	912	Speed Comp	55	SynchLink Status	316
SL Tx DirectSel2	913	Speed Error	100	TachSwitch Level	224
SL Tx DirectSel3	914	Speed Ref 1	10	Test Current Ref	431
SLAT Dwell Time	120	Speed Ref 2	12	Test Freq Rate	433
SLAT ErrorSetpnt	119	Speed Ref A Sel	27	Test Freq Ref	432
Sleep Control	284	Speed Ref B Sel	28	Test Mode Config	514
Sleep Level	282	Speed Ref Scale	38	Time Axis Output	203
Sleep Time	283	Speed Trim 1	21	Time Axis Rate	202
Sleep-Wake Mode	278	Speed Trim 2	22	To DL DataType	625
Sleep-Wake Ref	279	Speed Trim 3	23	To DriveLogix00	626
SlewRateTimeLimit	533	Speed/TorqueMode	110	To DriveLogix01	627
SlipReg Err Lmt	587	SReg FB Filt BW	94	To DriveLogix02	628
SlipReg Off lqs	461	SReg Out Filt BW	96	To DriveLogix03	629
SlipReg On Hystr	593	SReg Trq Preset	87	To DriveLogix04	630
Slip Comp Gain	99	SRegFB Filt Gain	93	To DriveLogix05	631
Slip Gain Max	445	SRegOut FiltGain	95	To DriveLogix06	632
Slip Gain Min	446	SrLss Angl Comp	541	To DriveLogix07	633
Slip Preload Val	552	SrLss FreqReg Ki	449	To DriveLogix08	634
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Slip Reg I Gain	448	SrLss Spd Reg BW	106	To DriveLogix10	636
Slip Reg P Gain	447	SrLss Spd Reg Ki	105	To DriveLogix11	637
Slip RPM @ FLA	98	SrLss Spd Reg Kp	104	To DriveLogix12	638
Slip RPM Meter	107	SrLss StbltyFilt	539	To DriveLogix13	639
Slip Slew Rate	553	SrLss Volt Comp	542	To DriveLogix14	640
Spd Err Filt BW	89	SrLss VoltStblty	538	To DriveLogix15	641
Spd Fdbk Scale	73	SrLss ZeroSpdLim	169	To DriveLogix16	642

Param Name Text	Parameter #	Param Name Text	Parameter #	Param Name Text	Parameter #
To DriveLogix17	643	UserData Dint 03	1004	Write Mask Act	712
To DriveLogix18	644	UserData Dint 04	1005	X Notch Attenu	778
To DriveLogix19	645	UserData Dint 05	1006	X Notch FiltFreq	779
To DriveLogix20	646	UserData Dint 06	1007	X Offst SpdFilt	756
Torque En Dly	501	UserData Dint 07	1008	XReg Integ HiLim	773
Torque Neg Limit	126	UserData Dint 08	1009	XReg Integ LoLim	772
Torque Pos Limit	125	UserData Dint 09	1010	XReg Integ Out	774
Torque Ref1	111	UserData Dint 10	1011	XReg Spd HiLim	776
Torque Ref1 Div	112	UserData Real 01	1012	XReg Spd LoLim	775
Torque Ref2	113	UserData Real 02	1013	Xsync Gen Period	787
Torque Ref2 Mult	114	UserData Real 03	1014	Xsync In 1	788
Torque Step	116	UserData Real 04	1015	Xsync In 2	790
Torque Trim	115	UserData Real 05	1016	Xsync In 3	793
Total Inertia	9	UserData Real 06	1017	Xsync Out 1	789
Trend Control	556	UserData Real 07	1018	Xsync Out 2	791
Trend In1 DInt	570	UserData Real 08	1019	Xsync Out 2 Dly	792
Trend In1 Real	571	UserData Real 09	1020	Xsync Out 3	794
Trend In2 DInt	574	UserData Real 10	1021	Xsync Out 3 Dly	795
Trend In2 Real	575	UserFunct Actual	1001	Xsync Status	786
Trend In3 DInt	578	UserFunct Enable	1000	Zero Speed Lim	160
Trend In3 Real	579	V/Hz Mode Config	513		
Trend In4 DInt	582	V/Hz Status	540		
Trend In4 Real	583	Vds Command	498		
Trend Mark DInt	567	Vds Fdbk Filt	441		
Trend Mark Real	568	Vds Max	438		
Trend Out1 DInt	572	Vds Min	440		
Trend Out1 Real	573	VirtEncPositFast	1160		
Trend Out2 DInt	576	Virt Encdr Dlyed	63		
Trend Out2 Real	577	Virt Encdr Posit	62		
Trend Out3 DInt	580	Virt Encoder EPR	61		
Trend Out3 Real	581	Virtual Edge/Rev	225		
Trend Out4 DInt	584	Voltage Class	403		
Trend Out4 Real	585	VoltFdbkLossCnfg	394		
Trend PreSamples	566	VPL Build Number	315		
Trend Rate	559	VPL Firmware Rev	314		
Trend State	558	VPL Mem Address	479		
Trend Status	557	VPL Mem Data Bit	482		
Trend Trig Bit	565	VPL Mem Data Flt	481		
Trend Trig Data	564	VPL Mem Data Int	480		
Trend TrigA DInt	560	VPL Mem Link Flt	484		
Trend TrigA Real	561	VPL Mem Link Int	483		
Trend TrigB DInt	562	VPL Mem Password	478		
Trend TrigB Real	563	Vqs Command	497		
TrendBuffPointer	569	Vqs Fdbk Filt	442		
Trq CurFdbk (Iq)	499	Vqs Max	437		
Trq NegLim Actl	124	Vqs Min	439		
Trq PosLim Actl	123	VqsReg Err Lmt	588		
Trq Ref TP Data	131	VqsReg Off Freq	462		
Trq Ref TP Sel	130	VqsReg On Hystr	592		
Tune Test Status	165	Vuv Fdbk Offset	549		
Tx Buf Data Type	969	Vvw Fdbk Offset	550		
Tx Dir Data Type	964	Wake Level	280		
UserData Dint 01	1002	Wake Time	281		
UserData Dint 02	1003	Write Mask	669		

Notes:

Troubleshooting

Chapter Objectives

This chapter provides information to guide you in troubleshooting the PowerFlex 700S drive. A list and description of drive faults (with possible solutions, when applicable) and alarms is included.

For Information on...	See page ...
Status Indicators	Below
HIM Indication of a Fault	156
Manually Clearing Faults	156
Fault and Alarm Types	156
Fault/Alarm Descriptions	157

Status Indicators

The condition or state of your drive and DriveLogix controller (if installed) is constantly monitored. Any changes will be indicated through the front panel LEDs and/or the HIM (if present). See [Drive Status Indicators on page 152](#) for more information. The DriveLogix option also provides a RUN LED and the controller LEDs that indicate the state of the controller. See [DriveLogix5730 Controller Status Indicators on page 153](#) for more information.

Drive Status Indicators



Table 3 - Drive Status Indicator Descriptions

		#	Name	Color	State	Description
DRIVE	Power Structure	①	PWR (Power)	Green	Steady	Illuminates when power is applied to the drive.
		②	STS (Status)	Green	Flashing	Drive ready, but not running & no faults are present.
					Steady	Drive running, no faults are present.
				Yellow	Flashing	When running, a type 2 (non-configurable) alarm condition exists, drive continues to run. When stopped, a start inhibit exists and the drive cannot be started.
					Steady	A type 1 (user configurable) alarm condition exists, but drive continues to run.
				Red	Flashing	A fault has occurred.
					Steady	A non-resettable fault has occurred.
				Red / Yellow	Flashing Alternately	The drive is in flash recovery mode. The only operation permitted is flash upgrade.
	Control Assembly Communications	③	PORT	Refer to the <i>Communication Adapter User Manual</i>		Status of DPI port internal communications (if present).
			MOD			Status of communications module (when installed).
			NET A			Status of network (if connected).
			NET B			Status of secondary network (if connected).
	Control	(1)	SYNCHLINK	Green	Steady	The module is configured as the time keeper. or The module is configured as a follower and synchronization is complete.
				Green	Flashing	The follower(s) are not synchronized with the time keeper.
				Red	Flashing	The module is configured as a time master on SynchLink and has received time information from another time master on SynchLink.
			ENABLE	Green	On	The drive's enable input is high.
				Green	Off	The drive's enable input is low.

(1) SynchLink LEDs are located on the SynchLink daughtercard on the main circuit board in the control cassette. Refer to the *SynchLink System Design Guide*, publication 1756-TD008, for more information.

DriveLogix5730 Controller Status Indicators

The status indicators (LEDs) for the DriveLogix controller are only operational when the drive is energized. The LEDs are only visible when the drive door is open or when viewed from the HIM or from an application program (e.g., DriveExplorer™) in parameter 554 [LED Status]. This feature is only available with DriveLogix version 15.03 or later.



ATTENTION: The RUN LED and the controller LEDs are only operational when the drive is energized, and are visible with the drive door open. Servicing energized equipment can be hazardous. Severe injury or death can result from electrical shock, burn or unintended actuation of controlled equipment. Follow Safety related practices of NFPA 70E, *ELECTRICAL SAFETY FOR EMPLOYEE WORKPLACES*. DO NOT work alone on energized equipment!

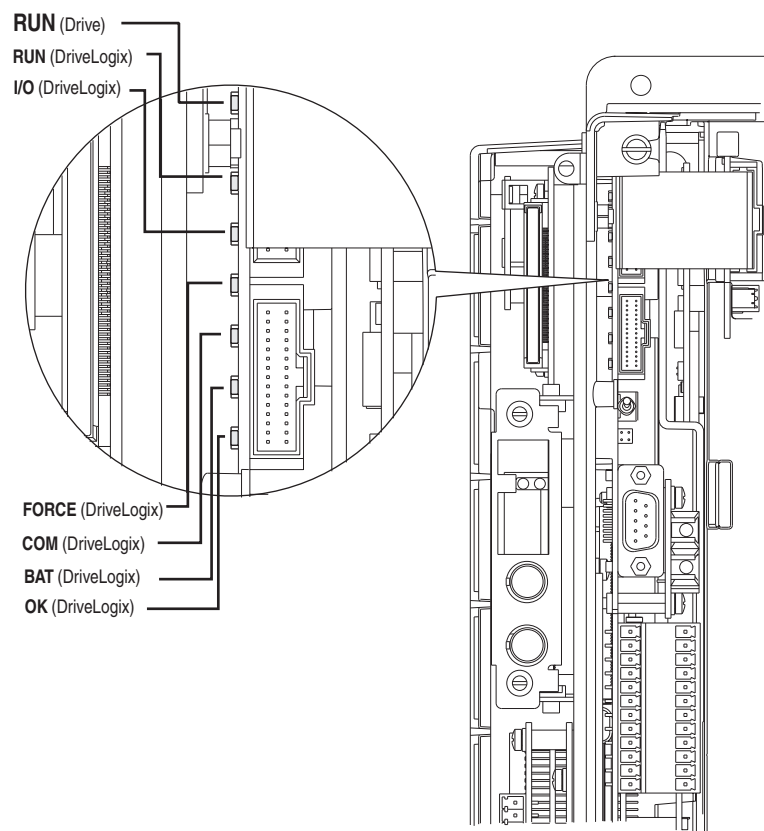


Table 4 - DriveLogix5730 Controller Status Indicator Descriptions

LED	Color/Condition:	Description:
RUN	off	The controller is in Program or Test mode.
	solid green	The controller is in Run mode.
I/O	off	Either: There are <i>no</i> devices in the I/O configuration of the controller. The controller does <i>not</i> contain a project (controller memory is empty).
	solid green	The controller is communicating with all the devices in its I/O configuration.
	flashing green	One or more devices in the I/O configuration of the controller are <i>not</i> responding.
	flashing red	The controller is not communicating to any devices. The controller is faulted.
FORCE	off	No tags contain I/O force values. I/O forces are inactive (disabled).
	solid amber	I/O forces are active (enabled). I/O force values may or may not exist.
	flashing amber	One or more input or output address have been forced to an On or Off state, but the forces have not been enabled.
COM	off	No RS-232 activity.
	flashing green	RS-232 activity.
BAT	off	The battery supports memory.
	solid red	Either the battery is: • Not installed. • 95% discharged and should be replaced.
OK	off	No power is applied.
	flashing red	If the controller is:
		Then:
		a new controller the controller requires a firmware update
	not a new controller	A major fault occurred. To clear the fault, either:
		Turn the key switch from PROG to RUN to PROG Go online with RSLogix 5000 software
	solid red	The controller detected a non-recoverable fault, so it cleared the project from memory. To recover: • Cycle power to the chassis. • Download the project. • Change to Run mode. • If the OK LED remains solid red, contact your Rockwell Automation representative or local distributor.
	solid green	Controller is OK.
	flashing green	The controller is storing or loading a project to or from nonvolatile memory.

Precharge Board Status Indicators

The Precharge Board indicators (LEDs) are found on Frame 5 & 6 drives only and are located above the “Line Type” Phase selection jumper. Refer to the *PowerFlex 700S Adjustable Frequency Drive - Phase II Control, Frames 1...6 Installation Instructions*, publication 20D-IN024, for the location of the Phase selection jumper.

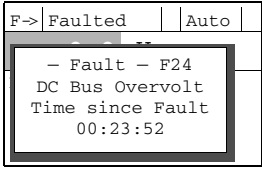
Name	Color	State	Description
Power	Green	Steady	Indicates when precharge board power supply is operational
Alarm	Yellow	Flashing [1] [2] [3] [4] [5] [6] [7]	Number in “[]” indicates flashes and associated alarm ⁽¹⁾ : [1] Low line voltage (<90%). [2] Very low line voltage (<50%). [3] Low phase (one phase <80% of line voltage). [4] Frequency out of range or asymmetry (line sync failed). [5] Low DC bus voltage (triggers ride-through operation). [6] Input frequency momentarily out of range (40-65 Hz). [7] DC bus short circuit detection active.
Fault	Red	Flashing [2] [4]	Number in “[]” indicates flashes and associated fault ⁽²⁾ : [2] DC bus short (Udc <2% after 20 ms). [4] Line sync failed or low line (Uac <50% Unom).

(1) An alarm condition automatically resets when the condition no longer exists

(2) A fault indicates a malfunction that must be corrected and can only be reset after cycling power.

HIM Indication of a Fault

The HIM also provides visual notification of a fault.

Condition	Display
Drive is indicating a fault. The LCD HIM immediately reports the fault condition by displaying the following: • “Faulted” appears in the status line • Fault number • Fault name • Time that has passed since the fault occurred Press Esc to regain control of the HIM	 The screenshot shows the HIM LCD display with the following text: F-> Faulted Auto. Below this, a box contains the text: - Fault - F24, DC Bus Overvolt, Time since Fault, 00:23:52.

Manually Clearing Faults

Follow the steps to manually clear a fault:

1. Press **Esc** (Esc) on the HIM to acknowledge the fault.
The fault information will be removed so that you can use the HIM.
2. Address the condition that caused the fault.
The cause must be corrected before the fault can be cleared.
3. After corrective action has been taken, clear the fault using one of the methods:
 - Press **Stop** (Stop) on the HIM
 - Cycle drive power
 - Select “Clear Faults” from the Diagnostics > Faults menu on the HIM

Fault and Alarm Types

A fault is a condition that stops the drive. An alarm is a condition that, if left untreated, may stop the drive. There are three configuration types for indicating a fault and/or alarm.

Table 5 - Fault Type Descriptions

Type	Fault Description	
①	Non-Configurable Fault	The cause of the fault must be corrected before the fault can be cleared.
②	User Configurable	Programming and commissioning personnel can configure the drive's response to the exception events. Response include: • Ignore • Alarm • Fault Coast Stop • Fault Ramp Stop • Fault Current Limit Stop
③	Non-Configurable Alarm	Can only be configured as a alarm.

Fault/Alarm Descriptions

Table 6 - Fault/Alarm Descriptions, Actions and Configuration Parameters

No.	Name	Type ⁽¹⁾	Description	Action
1	Abs Ovespd Det	①	The motor speed has exceeded the limits set in Par 75 [Rev Speed Limit], Par 76 [Fwd Speed Limit] and Par 335 [Abs OverSpd Lim].	- Check to see if the encoder feedback polarity is correct. - Check to see if the drive is in torque mode (selected in Par 110 [Speed/TorqueMode] value 2 "Torque Ref"). If the drive is in torque mode, verify that there is a load present. - Verify the min/max settings in Par 75 [Rev Speed Lim] and Par 76 [Fwd Speed Lim]. - Check to see if the load is overhauling. If it is overhauling, turn the bus regulator off using Par 414 [Brake/Bus Cnfg] bit 2 "BusRef High".
2	Vref Decel Fail	①	The value of Par 301 [Motor Spd Ref] has failed to decrease during a ramp to zero speed stop.	This could possibly be due to a speed trim from Par 21 [Speed Trim 1], Par 22 [Speed Trim 2] or Par 23 [Speed Trim 3].
3	Encoder 0 Loss	②	One of the following has occurred on encoder 0: - missing encoder (broken wire) - quadrature error - phase loss	Reconnect or replace the encoder. Configured with Par 365 [Fdbk LsCnfg Pri], Par 366 [Fdbk LsCnfg Alt], and Par 367 [Fdbk LsCnfgPosit].
4	Encoder 1 Loss	②	One of the following has occurred on encoder 1: - missing encoder (broken wire) - quadrature error - phase loss	Reconnect or replace the encoder. Configured with Par 365 [Fdbk LsCnfg Pri], Par 366 [Fdbk LsCnfg Alt], and Par 367 [Fdbk LsCnfgPosit].
5	Opt Port 0 Loss	②	A fault on port 0 of the Hi-Resolution Encoder feedback option card, MDI option card, Heidenhain option card, or Resolver feedback option card has occurred. Par 260 [Stegmann0 Status] displays the fault status for port 0 of the Hi-Resolution Encoder feedback option card. Par 264 [Heidenhain0 Stat] displays the fault status for port 0 of the Heidenhain feedback option card. Par 269 [Resolver0 Status] displays the fault status for port 0 of the Resolver feedback option card.	- Reconnect or replace the encoder - Reconnect the option feedback card Configured with Par 365 [Fdbk LsCnfg Pri], Par 366 [Fdbk LsCnfg Alt], and Par 367 [Fdbk LsCnfgPosit].
6	Opt Port 1 Loss	②	The Linear sensor portion of the MDI feedback option card has detected a fault condition. Par 286 [Linear1 Status] displays the fault status for linear portion of the MDI feedback option card.	- Reconnect or replace the encoder. - Reconnect the feedback option card. Configured with Par 365 [Fdbk LsCnfg Pri], Par 366 [Fdbk LsCnfg Alt], and Par 367 [Fdbk LsCnfgPosit].
7	Params Defaulted	①	All parameters are reset to default by user.	(Informational Only)
8	SLink HW Fail	①	A fault has occurred while loading the SynchLink firmware into FPGA on the Main Control board at power up.	Replace the Main Control board.
9	SLink Comm Fail	②	A SynchLink communication fault has occurred. Par 902 [SL Error Status] displays SynchLink errors.	Verify the SynchLink configuration in: Par 904 [SL Node Cnfg] Par 905 [SL Rx CommFormat], and Par 910 [SL Tx CommFormat] Reconnect SynchLink communication fibers. Configured with Par 384 [SL CommLoss Cnfg].
10	Drive Power Loss	①	One of the following has occurred: - DC Bus voltage has fallen below the minimum value. Par 306 [DC Bus Voltage] displays bus voltage. Par 330 [Fault TP Data] displays the minimum value when Par 329 [Fault TP I] is set to five. - The drive must first complete precharge before this check is made.	Verify AC line power.

No.	Name	Type ⁽¹⁾	Description	Action
11	Motor OLoad Trip	②	A motor overload trip has occurred. Par 308 [Output Current] is squared, scaled and integrated over time. When this integrated value exceeds 1.0, this exception event occurs. The integrator's output can be viewed in Par 330 [Fault TP Data] when Par 329 [Fault TP I] is set to 13 "Mtr OL Outpt". The overload integration rate is affected by Par 336 [Motor OL Factor], Par 337 [Mtr I2T Curr Min], Par 338 [Mtr I2T Spd Min] and Par 339 [Mtr I2T Calibrat].	- Reduce mechanical load - Enter correct motor nameplate full load amps Par 2 [Motor NP FLA] Configured with Par 371 [Mtr OL Trip Cnfg]
12	Motor OLoad Pend	②	A motor overload is pending. Par 308 [Output Current] is squared, scaled and integrated over time. When this integrated value exceeds 0.5, this exception event occurs. The integrator's output can be viewed in Par 330 [Fault TP Data] when Par 329 [Fault TP I] is set to 13 "Mtr OL Outpt". The overload integration rate is affected by Par 336 [Motor OL Factor], Par 337 [Mtr I2T Curr Min], Par 338 [Mtr I2T Spd Min] and Par 339 [Mtr I2T Calibrat].	- Reduce the mechanical load. - Enter correct motor nameplate full load amps Par 2 [Motor NP FLA]. Configured with Par 371 [Mtr OL Trip Cnfg].
13	Motor Stalled	②	The motor has stalled. The three conditions listed below have occurred at the same time for the amount of time specified in Par 373 [Motor Stall Time]: 1. The drive is not stopped (Par 150 [Logic State Mach] is not equal to zero). 2. The drive is on limit (Par 304 [Limit Status] is not equal to zero). 3. The drive is at zero speed (Par 155 [Logic Status], bit 13 "At Zero Spd" is set).	- Increase the torque limit. - Reduce the mechanical load. Configured with Par 374 [Motor Stall Cnfg].
14	Inv OTemp Pend	②	Par 313 [Heatsink Temp] is within 10°C of maximum. View the maximum heat sink temperature in Par 348 [Drive OL TP Data] when Par 347 [Drive OL TP I] is set to 30 "fMaxHsDegc".	- Reduce the mechanical load. - Lower the ambient temperature. Configured with Par 375 [Inv OT Pend Cnfg].
15	Inv OTemp Trip	①	Par 313 [Heatsink Temp] is above the maximum limit or a temperature sensor has failed (shorted or open). See Par 346 [Drive OL Status], bit 0 "NTC Shorted" and bit 1 "NTC Open".	- Reduce the mechanical load. - Lower the ambient temperature.
16	Inv OLoad Pend	②	The drive's operating point is approaching the intermittent current rating limitation. If output current remains at or above present levels, an inverter overload condition will occur.	Reduce the load on the drive. Configured with Par 376 [Inv OL Pend Cnfg].
17	Inv OLoad Trip	②	The drive's operating point has exceeded the intermittent current rating and a fallback to the continuous rating in Par 400 [Rated Amps] has occurred.	Reduce the mechanical load. Configured with Par 377 [Inv OL Trip Cnfg].
18	Ext Fault Input	②	A digital input has detected an external fault.	Enter a value of 3 "Ext Fault" or 38 "ExtFault Inv" in one of the following parameters to configure an input to detect an external fault: Par 825 [Digin 1 Sel] Par 826 [Digin 2 Sel] Par 827 [Digin 3 Sel] Par 828 [Dig In4 Sel] Par 829 [Dig In5 Sel] Par 830 [Dig In6 Sel] Configured with Par 379 [Ext Flt/Alm Cnfg].
19	DSP Memory Error	①	Flash memory does not match the SRAM memory.	Cycle the drive power. If the fault remains, replace the Main Control board.
20	DSP Device Error	①	A DSP (Velocity Position Loop) interrupt task has not been completed in the allotted time.	Cycle the drive power. If the fault remains, replace the Main Control board.
22	Over Frequency	①	The Encoderless algorithm failed to converge on the correct speed. Two possible causes include: 1. The Velocity regulator is attempting to run below the motor's slip speed. 2. The Frequency regulator "pulls out" and the commanded motor frequency slows to the maximum frequency limit.	

No.	Name	Type ⁽¹⁾	Description	Action
23	MC Commissn Fail	①	The drive has failed to complete either the Motor Autotuning procedure or the Power Circuits Diagnostics test. Par 463 [MC Diag Error 1], Par 464 [MC Diag Error 2], and Par 465 [MC Diag Error 3] display Motor Autotuning and Power Circuit Diagnostic faults. Par 465 [MC Diag Error 3] - Drive current, inductance, voltage and speed are not within motor nameplate specifications. This fault occurs most frequently on low horsepower motors.	- Verify that the motor nameplate data is entered correctly into the drive. - Verify that the motor is wired for the correction voltage entering into the drive. - Verify that the encoder (if used) and velocity feedback is correct. - Change the tuning mode in Par 515 [FVC Tune Config] to 9 "NoRotate Tune".
24	DC Bus Overvolt	①	A DC Bus overvoltage has occurred.	- Verify the AC Line. - Verify that either the brake or bus regulator is enabled (Par 414 [Brake/Bus Cnfg], bit 0 "Brake Enable" or bit 3 "Bus Reg Enable", respectively). - Verify that Par 128 [Regen Power Lim] is set properly. - If Par 414 [Brake/Bus Cnfg] bit 0 "Brake Enable" is set, verify that the braking resistor is properly sized.
25	Inv Trans Desat	①	The IGBT detects a transistor failure (Desaturation).	
26	Ground Fault	①	A current to earth exceeds 35% of the peak drive rating.	Check the motor and external wiring to the drive output terminals for a grounded condition.
27	Inst Overcurrent	①	The instantaneous motor current exceeds 214% of the rating.	- Reduce the mechanical load. - Check the motor and external wiring to the motor.
28	VPL/MC Comm Fail	①	A communication failure has occurred between the Velocity Position Loop (VPL) processor and the Motor Control (MC) processor on the main control board. Possible cause are: - The VPL is flashing the MC firmware into the MC processor when HIM indicates "Loading Config". - The MC has failed to complete or pass diagnostic tests. - The MC has not detected VPL handshake activity for over 32 ms. - The VPL has not detected MC handshake activity for over 32 ms. This is indicated when Fault Test Point 15 or 16 equals 1. This test point is viewed in Par 330 [Fault TP Data] when Par 329 [Fault TP select] is set to value 15 or 16.	- Cycle power to the drive. - Reflash the firmware. - Replace the Main Control board.
29	PWM Signal Short	①	This fault is detected when ever the actual IGBT gate is different than the commanded IGBT states. This fault is detected by the Motor Control (MC) processor.	
30	MC Firmware	①	One of the following Motor Control (MC) firmware errors has occurred: - MC Task Over Run - Illegal Interrupt - Self Diagnostic Fault - Data Error	- Cycle power to the drive. - Reflash the firmware. - Replace the Main Control board.
31	Precharge Error	②	The precharge function has failed to complete within 30 seconds (default) of the precharge request. The precharge time out is configurable in Par 410 [PreChrg TimeOut]. A precharge request is initiated when the DC Bus voltage is above the Undervoltage Trip level and the precharge input is high (the requirement for the precharge being high can be bypassed by setting Par 411 [PreChrg Control], bit 01 "PreChrg Enable" to 0 "Off").	- Verify the value in Par 410 [PreChrg TimeOut]. - Verify the bit value in Par 411 [PreChrg Control] = 1 "Enbl PrChrg". Configured with Par 381 [PreChrg Err Cnfg]
32	PWM Asynch	①	The Motor Control Processor is not synchronized with SynchLink.	
33	+/- 15volt Power	①	The 12V DC control voltage is outside the tolerance range. The positive voltage power must be within the band from +17.00 to +11.61V DC. The negative voltage power must be within the band from -17.00 to -11.61V DC.	Replace switch mode power supply. For smaller frames, replace drive.

No.	Name	Type ⁽¹⁾	Description	Action
35	Parameter Chksum	①	The checksum read from the EEPROM does not match the checksum calculated	• Cycle power to the drive. • Replace the Main Control board.
38	Brake OL Trip	②	The calculated temperature of the dynamic braking resistor is too high. The temperature is calculated by a thermal model. If the resistor is internal, the model uses the resistor characteristics stored in the power structure EEPROM memory. If the resistor is external, the model uses values of Par 416 [Brake PulWatts] and Par 417 [Brake Watts].	Verify actual temperature of brake: • If hot, wait for the brake to cool. • If cold, cycle power to the drive. If cold, verify that the values of Par 416 [Brake PulWatts] and Par 417 [Brake Watts] are correct. Configured with Par 369 [Brake OL Cnfg].
39	PowerEE CRC Fail	①	The Cycling Ring Checksum (CRC) of the data stored in the Power Board EEPROM does not match the stored CRC.	Cycle power to the drive. In frame 9...14 drives, check the communication bus lines - 10 pin connector on the Main Control board, Fiber Optic Power Interface board, and fiber optic cable connections.
40	SLink Mult Oflow	②	A SynchLink Multiplier Overflow has occurred. Par 927 [SL Mult State] displays SynchLink multiplier overflow errors.	Configured with Par 390 [SL MultErr Cnfg].
41	Ridethru Timeout	①	The drive has been in a bus loss ridethrough condition for more than two seconds (default). The ridethrough timeout is configurable in Par 407 [Power Loss Time].	• Verify the AC Line. • Verify the value in Par 407 [Power Loss Time].
42	DC Bus Undervolt	②	The Bus voltage has fallen below the level configured in Par 409 [Line Undervolts].	Verify the AC Line. In frames 1...4 and 9...14, verify that the precharge resistor is present (with power off, there should be a resistance between DC+ and BR+). In frames 5 & 6, check the precharge board for errors. See the precharge board LED for fault sequence. Configured with Par 393 [BusUndervoltCnfg].
43	VoltageFdbk Loss	②	A loss of motor or DC Bus voltage feedback has occurred because of a communication failure between Motor Control and Voltage Feedback board.	• Check the communication line between Motor Control (MC) and the Voltage Feedback board. • Replace the Voltage Feedback board. Configured with Par 394 [VoltFdbkLossCnfg].
44	Runtime Data Rst	③	Runtime data (hours, energy) has been reset to zero due to a checksum error.	(Informational Only)
45	Enable Health	①	The safety circuit is active.	Check the input signal to the safety circuit.
46	Interp Out Synch	②	The interpolator for position feedback lost synchronization with the Velocity Position Loop (VPL).	Configured with Par 378 [Interp Flt Cnfg].
47	MC CML Task Fail	③	The Current Minor Loop (CML) task has been delayed or run with an incorrect interval.	Cycle power to the drive.
48	No Ctrl Device	①	The controlling device (HIM or controller) has been disconnected while the drive was running.	Check the controlling device connections to the drive.
49	DPI Loss Port 1	②	The device at DPI port 1 has stopped communicating with the drive. A SCANport device is connected to a drive operating DPI devices at 500k Baud.	Verify that the DPI device is present and functional at port 1. Configured with Par 391 [DPI CommLoss Cfg].
50	DPI Loss Port 2	②	The device at DPI port 2 has stopped communicating with the drive. A SCANport device is connected to a drive operating DPI devices at 500k Baud.	Verify that the DPI device is present and functional at port 2. Configured with Par 391 [DPI CommLoss Cfg].
51	DPI Loss Port 3	②	The device at DPI port 3 has stopped communicating with the drive. A SCANport device is connected to a drive operating DPI devices at 500k Baud.	Verify that the DPI device is present and functional at port 3. Configured with Par 391 [DPI CommLoss Cfg].
52	DPI Loss Port 4	②	The device at DPI port 4 has stopped communicating with the drive. A SCANport device is connected to a drive operating DPI devices at 500k Baud.	Verify that the DPI device is present and functional at port 4. Configured with Par 391 [DPI CommLoss Cfg].

No.	Name	Type ⁽¹⁾	Description	Action
53	DPI Loss Port 5	②	The device at DPI port 5 has stopped communicating with the drive. A SCANport device is connected to a drive operating DPI devices at 500k Baud.	Verify that the DPI device is present and functional at port 5. Configured with Par 391 [DPI CommLoss Cfg].
54	DPI Loss Port 6	②	The device at DPI port 6 has stopped communicating with the drive. A SCANport device is connected to a drive operating DPI devices at 500k Baud.	Verify that the DPI device is present and functional at port 6. Configured with Par 391 [DPI CommLoss Cfg].
55	Net Loss DPI P1	②	A communications fault has occurred between the communication adapter at DPI port 1 and the network.	Verify the network connection. Verify the status of network. Configured with Par 392 [NetLoss DPI Cfg].
56	Net Loss DPI P2	②	A communications fault has occurred between the communication adapter at DPI port 2 and the network.	Verify the network connection. Verify the status of network. Configured with Par 392 [NetLoss DPI Cfg].
57	Net Loss DPI P3	②	A communications fault has occurred between the communication adapter at DPI port 3 and the network.	Verify the network connection. Verify the status of network. Configured with Par 392 [NetLoss DPI Cfg].
58	Net Loss DPI P4	②	A communications fault has occurred between the communication adapter at DPI port 4 and the network.	Verify the network connection. Verify the status of network. Configured with Par 392 [NetLoss DPI Cfg].
59	Net Loss DPI P5	②	A communications fault has occurred between the communication adapter at DPI port 5 and the network.	Verify the network connection. Verify the status of network. Configured with Par 392 [NetLoss DPI Cfg].
60	Net Loss DPI P6	②	A communications fault has occurred between the communication adapter at DPI port 6 and the network.	Verify the network connection. Verify the status of network. Configured with Par 392 [NetLoss DPI Cfg].
61	Logix Out of Run	②	The DriveLogix controller is in a Non-Run mode. Non-Run modes include program, remote-program and faulted modes.	Clear the fault. Configured with Par 386 [Lgx OutOfRunCfg].
62	Logix Timeout	②	The communication connection to the DriveLogix controller has timed out.	Configured with Par 387 [Lgx Timeout Cfg].
63	Logix Closed	②	The DriveLogix controller has closed the Controller to Drive connection.	Verify that the Drive is present in the Controller I/O configuration. Configured with Par 388 [Lgx Clod Cfg].
64	Logix Link Chng	②	A required link in the Controller to Drive Communication Format has been modified.	Clear the fault. Configured with Par 389 [Lgx LinkChngCfg].
65	HiHp In PhaseLs	②	<i>(High Horse Power Only)</i> AC Input Phase Loss - the AC input phase voltage has fallen.	• Check for voltage on each AC input phase. • Check the status of each external AC input fuse. Configured with Par 370 [HiHp InPhsLs Cfg].
66	HiHp Bus Com Dly	①	<i>(High Horse Power Only)</i> Bus Communication Time Delay - the communication bus has delayed feedback or bad communication quality.	Check the communication bus lines - 10 pin connector on the Main Control board, Fiber Optic Power Interface board, and fiber optic connections.
67	HiHp Bus Link Ls	①	<i>(High Horse Power Only)</i> Bus Communication Link Loss - bus communication between the Fiber Optic Power Interface board and the Voltage Feedback board has stopped.	Check the communication bus lines - 10 pin connector on the Main Control board, Fiber Optic Power Interface board, and fiber optic connections.
68	HiHp Bus CRC Er	①	<i>(High Horse Power Only)</i> Bus Communication CRC Error - too many Cycling Ring Checksum (CRC) errors have occurred in the communication bus. A fast power cycle may cause the 700S Main Control board to attempt to communicate with the ASIC board before the ASIC board is energized.	Check the communication bus lines - 10 pin connector on the Main Control Board, Fiber Optic Power Interface board, and fiber optic connections.
69	HiHp Bus WtchDog	①	<i>(High Horse Power Only)</i> Bus Communication Watchdog Error, No message (packets) came through in the communication bus - a watchdog error was detected.	Check the communication bus lines - 10 pin connector on the Main Control board, Fiber Optic Power Interface board, and fiber optic connections.

No.	Name	Type ⁽¹⁾	Description	Action
70	HiHp Fan Fdbk Ls	①	<i>(High Horse Power Only)</i> Fan Feedback Loss - an inverter cooling fan did not send active feedback or did not work.	- Check the communication bus lines - 10 pin connector on the Main Control board, Fiber Optic Power Interface board, and fiber optic connections. - Check the inverter cooling fans.
71	HiHp Drv OvrLoad	①	<i>(High Horse Power Only)</i> Drive Overload - the drive's operating point has exceeded the intermittent current rating and a foldback to the continuous rating in Par 400 [Rated Amps] has occurred.	Reduce the mechanical load.
72	HiHp PwrBd PrcEr	①	<i>(High Horse Power Only)</i> Power Board Processor Error - a processor on the Fiber Optic Power Interface circuit board has detected a self diagnostic problem.	Replace the Fiber Optic Power Interface board.
73	HiHp PrChrg Cntc	①	<i>(High Horse Power Only)</i> Precharge Contactor Fault - the precharge contactor did not send back active feedback.	- If the drive has AC input, check the precharge resistor and contactor. - If the drive has DC input, check the jumper for precharge bypass switch on the Fiber Optic Power Interface board.
74	HiHp PwrEE Error	①	<i>(High Horse Power Only)</i> Power EEPROM Error - the Cycling Ring Checksum (CRC) of the data stored in the Fiber Optic Power Interface board's EEPROM does not match the stored CRC.	- Cycle power to the drive. - Check the communication bus lines - 10 pin connector on the Main Control board, Fiber Optic Power Interface board, and fiber optic connections.
75	HiHP PwrBd Otemp	①	<i>(High Horse Power Only)</i> Power Board Over Temperature - the temperature of the Fiber Optic Power Interface board has exceeded 85° C.	Lower the ambient temperature.
76	HiHP HardwareVer	③	<i>(High Horse Power Star-coupler Frame 12 & 14 Drives Only)</i> The left and right side inverter units have different current ratings or the ASIC board or the Fiber Optic Power Interface board is not functioning.	Check the version of each inverter (left and right units), then replace the unit.
77	HiHP CurrUnblnce	③	<i>(High Horse Power Star-coupler Frame 12 & 14 Drives Only)</i> The output current between the left and right side inverter units are unbalanced (20% of current feedback rating, e.g. 184A = 920A * 0.2).	Check the motor wiring for each unit.
78	HiHP VoltUnblnce	③	<i>(High Horse Power Star-coupler Frame 12 & 14 Drives Only)</i> The bus voltage for the left and right side inverter units is unbalanced (6% of normal bus voltage, e.g. 41Vdc = 675Vdc * 0.06).	Check the input power and wiring for each unit.
79	HiHP Bus Data	③	<i>(High Horse Power Star-coupler Frame 12 & 14 Drives Only)</i> Communication Bus data are mismatched between the left and right side unit.	Check communication bus lines - 10 pin connector on Main Control board, Fiber Optic Power Interface board and fiber optic connections.
81	+ Soft Over Trvl	②	<i>(Motion Only)</i> The position feedback exceeds the maximum positive travel setting in Par 694 [Motn Mx Pos Trvl].	Configured with Par 395 [+Sft OvrTrvlCnfg].
82	- Soft Over Trvl	②	<i>(Motion Only)</i> The position feedback exceeds the maximum negative travel setting in Par 695 [Motn Mx Neg Trvl].	Configured with Par 396 [-Sft OvrTrvlCnfg].
83	+ Hard Over Trvl	②	<i>(Motion Only)</i> The signal for the hardware positive over travel appears on a digital input.	Configured with Par 397 [+Hrd OvrTrvlCnfg].
84	- Hard Over Trvl	②	<i>(Motion Only)</i> The signal for the hardware negative over travel appears on a digital input.	Configured with Par 398 [-Hrd OvrTrvlCnfg].
85	Position Error	②	<i>(Motion Only)</i> The value of Par 769 [Position Error] exceeded the value of Par 696 [Motn PositErrTol].	Verify the value in Par 696 [Motn PositErrTol]. Configured with Par 399 [Position ErrCnfg].
86	Drive Homing	③	When the drive is in Drive Homing mode (Par 740 [Position Control], bit 24 or bit 27 is On), the Drive Homing Alarm triggers and the drive moves to a home position automatically.	Check Par 740 [Position Control], bit14 "Find Home" or bit 27 "Return Home".

No.	Name	Type ⁽¹⁾	Description	Action
88	Stahl Optics	③	The Linear Stahl encoder detected a fault. Par 291 [Lin1Stahl Status] displays the details of the fault.	• Reconnect encoder or replace encoder. • Reconnect option feedback card.
89	Drv Waking	③	The Wake timer is counting toward a value that will start the drive.	
92	Ride Thru	③	The Bus voltage has dropped to the Ride-Through level specified in Par 408 [Power Loss Level].	Check the AC input voltage and the DC bus voltage.
93	+/- 12volt Power Alarm	③	The 12V DC control voltage is outside the tolerance range (Alarm). The positive voltage power exceeds +15.50 V DC. The negative voltage power exceeds -15.50V DC.	
94	Analog In 1 Loss	①	Analog Input channel 1 is lost. For configuration of Analog Input channel 1, see Par 1093 [Anlg In1LossCnfg].	• Check condition of Analog Input channel 1. • Change configuration for parameter 1093 [Anlg In1LossCnfg].
95	Analog In 2 Loss	①	Analog Input channel 2 is lost. For configuration of Analog Input channel 2, see Par 1094 [Anlg In2LossCnfg].	• Check condition of Analog Input channel 2. • Change configuration for parameter 1094 [Anlg In2LossCnfg].
96	Analog In 3 Loss	①	Analog Input channel 3 is lost. For configuration of Analog Input channel 3, see Par 1095 [Anlg In3LossCnfg].	• Check condition of Analog Input channel 3. • Change configuration for parameter 1095 [Anlg In3LossCnfg].
129	Faults Cleared	*	Indicates that all faults have been cleared.	*Informational only.
130	Fault Q Cleared	*	Indicates that the fault queue has been cleared.	*Informational only.
131	Alarm Cleared	*	Indicates that all alarms have been cleared.	*Informational only.
132	Alarm Q Cleared	*	Indicates that the alarm queue has been cleared.	*Informational only.

(1) Refer to [Table 5 on page 156](#) for Fault Type Descriptions.

For Allen-Bradley Drives Technical Support:

Title	Online at...
Allen-Bradley Drives Technical Support	http://www.rockwellautomation.com/literature or Call M-F, 7:00a.m. to 6:00p.m. Central STD time: 1.262.512.8176

For Automation and Control Technical Support:

Title	Online at...
Rockwell Automation Technical Support	http://support.rockwellautomation.com/knowledgebase

Table 7 - Fault/Alarm Description Cross Reference

Fault/Alarm	No.	Fault/Alarm	No.
+/- 12volt Power Alarm	93	HiHp PwrEE Error	74
+/- 15volt Power	33	HiHP VoltUnblnce	78
+ Hard Over Trvl	83	Inst Overcurrent	27
- Hard Over Trvl	84	Interp Out Synch	46
+ Soft Over Trvl	81	Inv OLoad Pend	16
- Soft Over Trvl	82	Inv OLoad Trip	17
Abs Ovespd Det	1	Inv OTemp Pend	14
Alarm Cleared	131	Inv OTemp Trip	15
Alarm Q Cleared	132	Inv Trans Desat	25
Analog In 1 Loss	94	Logix Clod	63
Analog In 2 Loss	95	Logix Link Chng	64
Analog In 3 Loss	96	Logix Out of Run	61
Brake OL Trip	38	Logix Timeout	62
DC Bus Overvolt	24	MC CML Task Fail	47
DC Bus Undervolt	42	MC Commissn Fail	23
DPI Loss Port 1	49	MC Firmware	30
DPI Loss Port 2	50	Motor OLoad Pend	12
DPI Loss Port 3	51	Motor OLoad Trip	11
DPI Loss Port 4	52	Motor Stalled	13
DPI Loss Port 5	53	Net Loss DPI P1	55
DPI Loss Port 6	54	Net Loss DPI P2	56
Drive Homing	83	Net Loss DPI P3	57
Drive Power Loss	10	Net Loss DPI P4	58
Drv Waking	89	Net Loss DPI P5	59
DSP Device Error	20	Net Loss DPI P6	60
DSP Memory Error	19	No Ctrl Device	48
Enable Health	45	Opt Port 0 Loss	5
Encoder 0 Loss	3	Opt Port 1 Loss	6
Encoder 1 Loss	4	Over Frequency Fault	22
Ext Fault Input	18	Parameter Chksum	35
Faults Cleared	129	Params Defaulted	7
Fault Q Cleared	130	Position Error	85
Ground Fault	26	PowerEE CRC Fail	39
HiHp Bus Com Dly	66	Precharge Error	31
HiHp Bus CRC Er	68	PWM Asynch	32
HiHP Bus Data	79	PWM Signal short	29
HiHp Bus Link Ls	67	Ridethru Timeout	41
HiHp Bus WtchDog	69	Ride Thru	92
HiHP CurrUnblnce	77	Runtime Data Rst	44
HiHp Drv OvrLoad	71	SLink Comm Fail	9
HiHp Fan Fdbk Ls	70	SLink HW Fail	8
HiHP HardwareVer	76	SLink Mult Oflow	40
HiHp In PhaLs	65	Stahl Optics	88
HiHp PrChrg Cntc	73	VoltageFdbk Loss	43
HiHP PwrBd Otemp	75	VPL/MC Comm Fail	28
HiHp PwrBd PrcEr	72	Vref Decel Fail	2

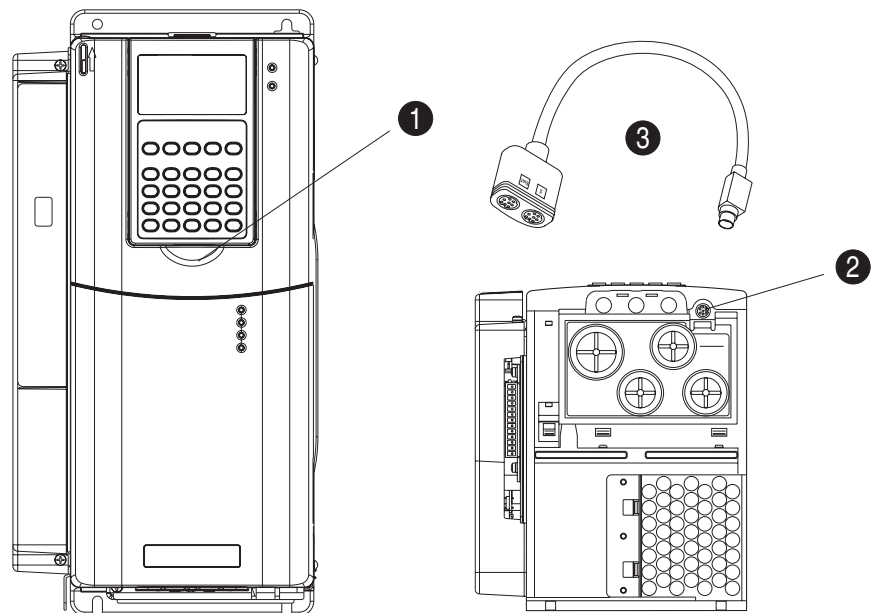
HIM Overview

This section provides information on using the PowerFlex 7-Class (DPI) HIM. Refer to the *Enhanced PowerFlex 7-Class HIM User Manual*, publication 20HIM-UM001, for information on using the Enhanced HIM (if installed).

For Information on ...	See Page ...
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Parameter Links	171
Remove/Install the HIM	172

External and Internal Connections

The PowerFlex 700S provides a cable connection for a hand-held HIM or Port Expander/Splitter (Frame 1 shown).



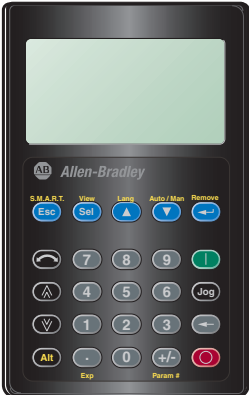
No.	Connector	Description
❶	DPI Port 1	HIM connection when installed in cover.
❷	DPI Port 2	Cable connection for handheld and remote options.
❸	DPI Port 3 or 2	Splitter cable connected to DPI Port 2 provides additional port.

LCD Display Elements

Display	Description
F-> Power Loss Auto	Direction Drive Status Alarm Auto/Man Information
0.0 RPM	Commanded or Output Speed
Main Menu: Diagnostics Parameter Device select	Programming / Monitoring / Troubleshooting

Human Interface Module (HIM) Key Functions

Key	Description
	Exit a menu, cancel a change to a parameter value, or acknowledge a fault/alarm.
	Select a digit, select a bit, or enter edit mode in a parameter screen.
	Scroll through options, increase a value, or toggle a bit.
	Scroll through options, decrease a value, or toggle a bit.
	Enter a menu, enter edit mode in a parameter screen, or save a change to a parameter value.
	Access the function associated with a programming or numeric key. Provides access to the Large Format Display.
	Start the drive.
	Stop the drive or clear a fault.
	Jog the drive.
	Change direction.
	Increase speed.
	Decrease speed.



Human Interface Module (HIM)

The keys are active only when the HIM is granted Manual Control or Par 27 [Speed Ref A I] / 28 [Speed Ref B I] is set to:

Option 12 “DPI Port 1” for a HIM installed in the drive cover or

Option 13 “DPI Port 2” for a HIM connected by cable for handheld or remote installation option

ALT Functions

To use an ALT function, press the ALT key, release it, then press the programming key associated with one of the following functions:

Table 8 - ALT Key Functions

ALT Key and then ...			Function
		S.M.A.R.T.	Function not available.
		View	Allows the selection of how parameters will be viewed or detailed information about a parameter or component.
		Lang	Function not available.
		Auto/Man	Function not available.
		Remove	Allows HIM removal without causing a fault if the HIM is not the last controlling device and does not have manual control of the drive.
		Exp	Allows the value to be entered as an exponent.
		Param #	Allows entry of a parameter number for viewing/editing.

Access the Start-Up Routine

The start-up routine asks simple yes or no questions and prompts you to input required information. To access the Start-Up routine from the User Display screen:

1. On the User Display screen, press .

The Main menu displays.

2. Use the  key to scroll to “Start-Up” in the list and press .

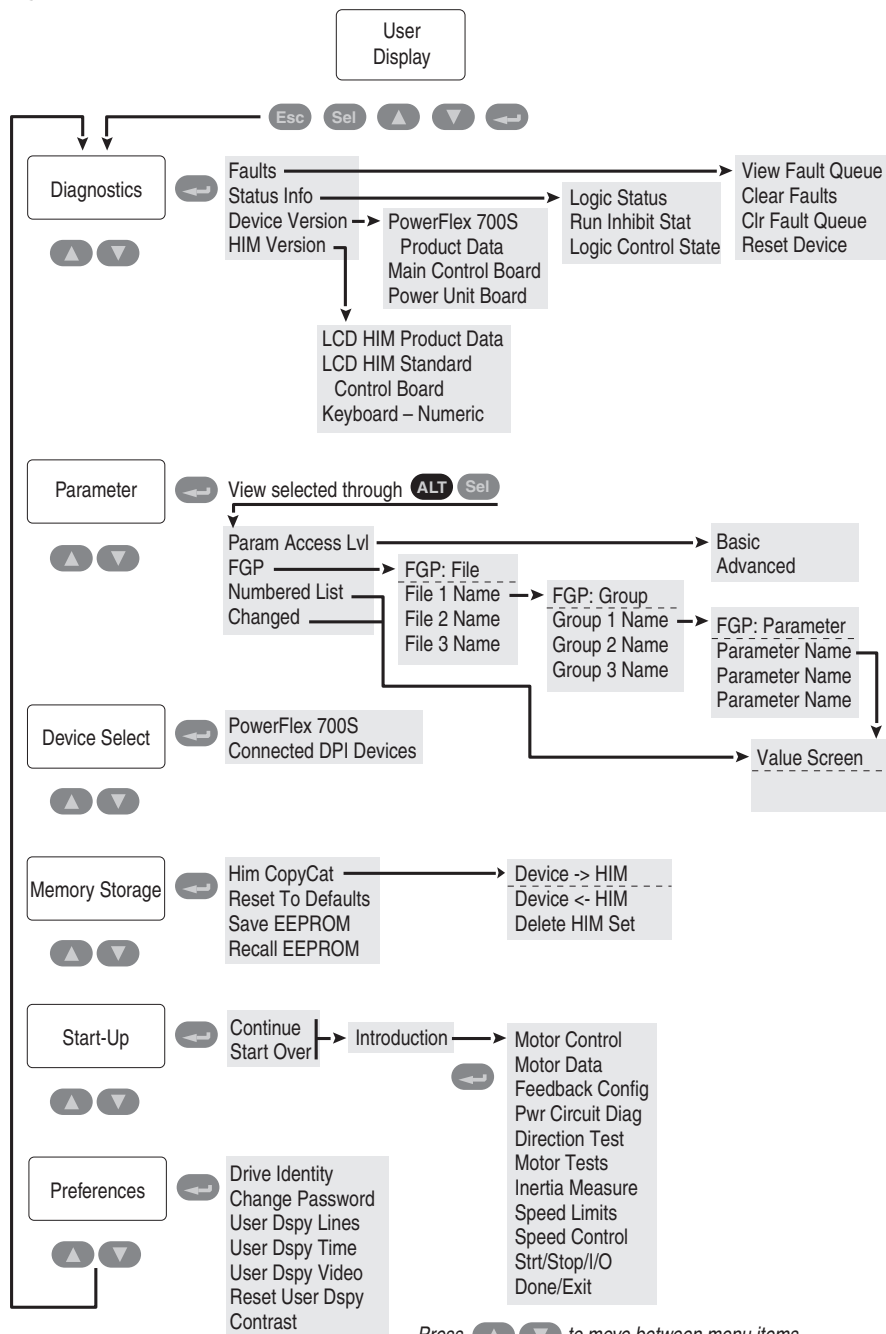
3. select “Continue” and press .

The PowerFlex 700S Start-Up screen displays.

4. Follow the prompts as necessary.

Menu Structure

Figure 2 - HIM Menu Structure



Press **▲ ▼** to move between menu items

Press **→** to select a menu item

Press **Esc** to move 1 level back in the menu structure

Press **ALT Sel** to select how to view parameters

Diagnostics Menu

When a fault trips the drive, use this menu to access detailed data about the drive.

Option	Description
Faults	View the fault queue or fault information, clear faults or resets the drive.
Status Info	View parameters that display status information about the drive.
Device Version	View the firmware version and hardware series of components.
HIM Version	View the firmware version and hardware series of the HIM.

Parameter Menu

Refer to [View and Edit Parameters on page 170](#).

Device Select Menu

Use this menu to access parameters in connected peripheral devices.

Memory Storage Menu

Drive data can be saved to, or recalled from, the HIM or EEPROM. EEPROM is permanent non-volatile drive memory. HIM sets are files stored in permanent non-volatile HIM memory.

Option	Description
HIM Copycat Device -> HIM Device <- HIM	Save data to a HIM set, load data from a HIM set to active drive memory or delete a HIM set.
EEPROM	Save data to EEPROM, load data from EEPROM to active drive memory or name a User set.
Reset To Defaults	Restore the drive to its factory-default settings.

IMPORTANT When loading data from a HIM set via the Copycat function, values for parameters 81 [Spd Reg P Gain] and 82 [Spd Reg I Gain] are re-calculated and overwritten due to parameter 90 [Spd Reg BW] being set to the default value of "10". To avoid overwriting the values of parameters 81 and 82, record the values before performing the Copycat from a HIM to the drive, manually update the values after the download and set parameter 90 to "0".

Start Up Menu

See [Figure 1 on page 18](#).

Preferences Menu

The HIM and drive have features that you can customize.

Option	Description
Drive Identity	Add text to identify the drive.
Change Password	Enable/disable or modify the password.
User Dspy Lines	Select the display, parameter, scale and text for the User Display. The User Display is two lines of user-defined data that appears when the HIM is not being used for programming.
User Dspy Time	Set the wait time for the User Display or enable/disable it.
User Dspy Video	Select Reverse or Normal video for the Frequency and User Display lines.
Reset User Dspy	Return all the options for the User Display to factory default values.

The PowerFlex 700S drive is initially set to Basic Parameter View. To view all parameters, set parameter 196 [ParamAccessLvl] to option 1 “Advanced”. Parameter 196 is not affected by the Reset to Defaults function.

View and Edit Parameters

LCD HIM

Steps:	Key(s):	Example Displays*
1. In the Main Menu, press the Up Arrow or Down Arrow to scroll to “Parameter.”	▲ or ▼	
2. Press Enter. “FGP File” appears on the top line and the first three files appear below it.	↵	FGP: File Monitor Motor Control Dynamic Control
3. Press the Up Arrow or Down Arrow to scroll through the files.	▲ or ▼	
4. Press Enter to select a file. The groups in the file are displayed under it.	↵	FGP: Group Motor Data Monitoring Drive Config
5. Repeat steps 3 and 4 to select a group and then a parameter. The parameter value screen will appear.		
6. Press Enter to edit the parameter.	↵	FGP: Parameter Motor NP Volts Motor NP FLA Motor NP Hertz
7. Press the Up Arrow or Down Arrow to change the value. If desired, press Sel to move from digit to digit, letter to letter, or bit to bit. The digit or bit that you can change will be highlighted.	▲ or ▼ Sel	FGP: Par 2 Motor NP FLA 1.000 Amps [ALT][VIEW] -> Limits
8. Press Enter to save the value. If you want to cancel a change, press Esc.	↵	
9. Press the Up Arrow or Down Arrow to scroll through the parameters in the group, or press Esc to return to the group list.	▲ or ▼ Esc	FGP: Par 2 Motor NP FLA 1.500 Amps [ALT][VIEW] -> Limits

Numeric Keypad Shortcut

If using a HIM with a numeric keypad, press the ALT key and the +/- key to access the parameter by typing its number.

Parameter Links

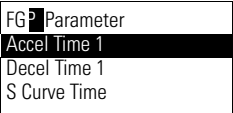
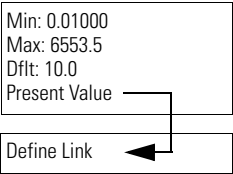
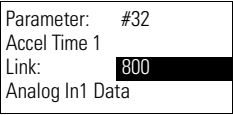
Most parameter values are entered directly by the user. However, certain parameters can be “linked,” so the value of one parameter becomes the value of another. For Example, the value of an analog input can be linked to [Accel Time 1]. Rather than entering an acceleration time directly (via HIM), the link allows the value to change by varying the analog signal. This can provide additional flexibility for advanced applications.

Each link has 2 components:

- Source parameter – sender of information.
- Destination parameter – receiver of information.

Most parameters can be a source of data for a link, except parameter values that contain an integer representing an ENUM (text choice). They are not allowed, since the integer is not actual data (it represents a value). Refer to the list of parameters in [Chapter 2](#) for information on which parameters can be destinations. All links must be established between equal data types (parameter value formatted in floating point can only source data to a destination parameter value that is also floating point).

Establishing A Link

Steps:	Key(s):	Example Displays:
1. Select a valid destination parameter to be linked. The parameter value screen displays.		
2. Press Enter to edit the parameter. The cursor will move to the value line.		
3. Press ALT and then View (Sel). Next, press the Up or Down Arrow to change “Present Value” to “Define Link”. Press Enter.	 +   or 	
4. Enter the Source Parameter Number and press Enter.		
The linked parameter can now be viewed two different ways by repeating steps 1...4 and selecting “Present Value” or “Define Link.” If an attempt is made to edit the value of a linked parameter, “Parameter is Linked!” will be displayed, indicating that the value is coming from a source parameter and cannot be edited.		
		
5. To remove a link, repeat steps 1...5 and change the source parameter number to zero (0).		
6. Press Esc to return to the group list.		

Remove/Install the HIM

The HIM can be removed or installed while the drive is powered.

Steps:	Key(s):	Example Display:
To remove the HIM... 1. Press ALT and then Enter (Remove). The Remove HIM configuration screen appears. 2. Press Enter to confirm that you want to remove the HIM. 3. Remove the HIM from the drive or disconnect the cable. To install HIM... • Insert the HIM into drive or re-connect cable.	 + 	Remove Op Intfrc: Press Enter to Disconnect Op Intfrc? (Port 2 Control)

Application Notes

For additional application notes, refer to the *PowerFlex 700S Adjustable Frequency AC Drive with Phase II Control - Reference Manual*, publication [PFLEX-RM003](#).

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Motors with Compatible Thermistor Ratings	181
Setpt 1 Data	182
Setpt 2 Data	182
Stop Dwell Time	183
Sleep-Wake Mode	184

DPI Communication Configurations

Typical Programmable Controller Configurations

IMPORTANT If programs are written that continuously write information to the drive, care must be taken to properly format the block transfer. If attribute 10 is selected for the block transfer, values will be written only to RAM and will not be saved by the drive. This is the preferred attribute for continuous transfers. If attribute 9 is selected, each program scan will complete a write to the drives non-volatile memory (EEPROM). Since the EEPROM has a fixed number of allowed writes, continuous block transfers will quickly damage the EEPROM. Do Not assign attribute 9 to continuous block transfers. Refer to the individual communications adapter User Manual for additional details.

Logic Command Word

Logic Bits																Command	Description																																							
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																									
															x	Normal Stop	0 = Not Normal Stop 1 = Normal Stop																																							
															x	Start ⁽¹⁾	0 = Not Start 1 = Start																																							
														x		Jog 1	0 = Not Jog using [Jog Speed 1] 1 = Jog using [Jog Speed 1]																																							
												x				Clear Fault ⁽²⁾	0 = Not Clear Fault 1 = Clear Fault																																							
										x	x					Unipolar Direction	00 = No Command 01 = Forward Command 10 = Reverse Command 11 = Hold Direction Control																																							
									x							Reserved																																								
								x								Jog 2	0 = Not Jog using [Jog Speed 2] 1 = Jog using [Jog Speed 2]																																							
							x									Current Limit Stop	0 = Not Current Limit Stop 1 = Current Limit Stop																																							
						x										Coast Stop	0 = Not Coast to Stop 1 = Coast to Stop																																							
					x											Reserved																																								
				x												Reserved																																								
			x													Spd Ref I0																																								
		x														Spd Ref I1																																								
	x															Spd Ref I2	<table><tr><th colspan="3">Bits</th></tr><tr><th>14</th><th>13</th><th>12</th><th></th></tr><tr><td>0</td><td>0</td><td>0</td><td>= Spd Ref A</td></tr><tr><td>0</td><td>0</td><td>1</td><td>= Spd Ref B</td></tr><tr><td>0</td><td>1</td><td>0</td><td>= Preset 2</td></tr><tr><td>0</td><td>1</td><td>1</td><td>= Ref. 3 (Preset 3)</td></tr><tr><td>1</td><td>0</td><td>0</td><td>= Ref. 4 (Preset 4)</td></tr><tr><td>1</td><td>0</td><td>1</td><td>= Ref. 5 (Preset 5)</td></tr><tr><td>1</td><td>1</td><td>0</td><td>= Ref. 6 (Preset 6)</td></tr><tr><td>1</td><td>1</td><td>1</td><td>= Ref. 7 (Preset 7)</td></tr></table>	Bits			14	13	12		0	0	0	= Spd Ref A	0	0	1	= Spd Ref B	0	1	0	= Preset 2	0	1	1	= Ref. 3 (Preset 3)	1	0	0	= Ref. 4 (Preset 4)	1	0	1	= Ref. 5 (Preset 5)	1	1	0	= Ref. 6 (Preset 6)	1	1	1	= Ref. 7 (Preset 7)
Bits																																																								
14	13	12																																																						
0	0	0	= Spd Ref A																																																					
0	0	1	= Spd Ref B																																																					
0	1	0	= Preset 2																																																					
0	1	1	= Ref. 3 (Preset 3)																																																					
1	0	0	= Ref. 4 (Preset 4)																																																					
1	0	1	= Ref. 5 (Preset 5)																																																					
1	1	0	= Ref. 6 (Preset 6)																																																					
1	1	1	= Ref. 7 (Preset 7)																																																					
x																Reserved																																								

(1) A Not Stop condition (logic bit 0 = 0, logic bit 8 = 0, and logic bit 9 = 0) must first be present before a 1 = Start condition will start the drive.

(2) To perform this command, the value must switch from "0" to "1".

Logic Status Word

Logic Bits																Status	Description
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0		
															x	Active	0 = Not Active 1 = Active
															x	Running	0 = Not Running 1 = Running
														x		Command Direction	0 = Reverse 1 = Forward
												x				Actual Direction	0 = Reverse 1 = Forward
											x					Accel	0 = Not Accelerating 1 = Accelerating
										x						Decel	0 = Not Decelerating 1 = Decelerating
									x							Jogging	0 = Not Jogging 1 = Jogging
								x								Fault	0 = No Fault 1 = Fault
							x									Alarm	0 = No Alarm 1 = Alarm
						x										Flash Mode	0 = Not in Flash Mode 1 = In Flash Mode
					x											Run Ready	0 = Not Ready to Run 1 = Ready to Run
				x												At Limit ⁽¹⁾	0 = Not At Limit 1 = At Limit
			x													Tach Loss Sw	0 = Not Tach Loss Sw 1 = Tach Loss Sw
		x														At Zero Spd	0 = Not At Zero Speed 1 = At Zero Speed
	x															At setpt Spd	0 = Not At Setpoint Speed 1 = At Setpoint Speed
x																Enable	0 = Not Enabled 1 = Enabled

(1) See parameter 304 - [Limit Status] for a description of the limit status conditions.

DPI Device Limitations

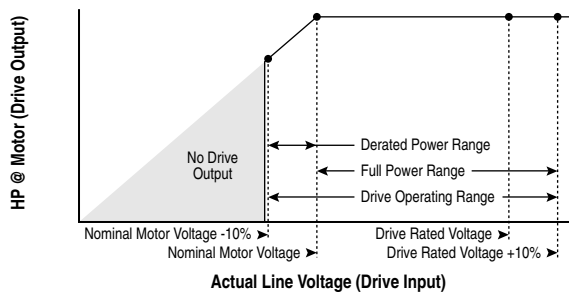
PowerFlex 700S drives use a 450mA device on the 12V DPI power supply. Due to the typical load of a external DPI device of 140mA, there is a three DPI device limit.

Input Voltage Range/ Tolerance

Drive Rating	Nominal Line Voltage	Nominal Motor Voltage	Drive Full Power Range	Drive Operating Range
200-240	200	200†	200-264	180-264
	208	208	208-264	
	240	230	230-264	
380-400	380	380†	380-528	342-528
	400	400	400-528	
	480	460	460-528	
500-600 (Frames 1-4 Only)	600	575†	575-660	432-660
500-690 (Frames 5 & 6 Only)	600	575†	575-660	475-759
	690	690	690-759	475-759

Drive Full Power Range = Nominal Motor Voltage to Drive Rated Voltage + 10%.
Rated current is available across the entire Drive Full Power Range

Drive Operating Range = Lowest† Nominal Motor Voltage - 10% to Drive Rated Voltage + 10%.
Drive Output is linearly derated when Actual Line Voltage is less than the Nominal Motor Voltage

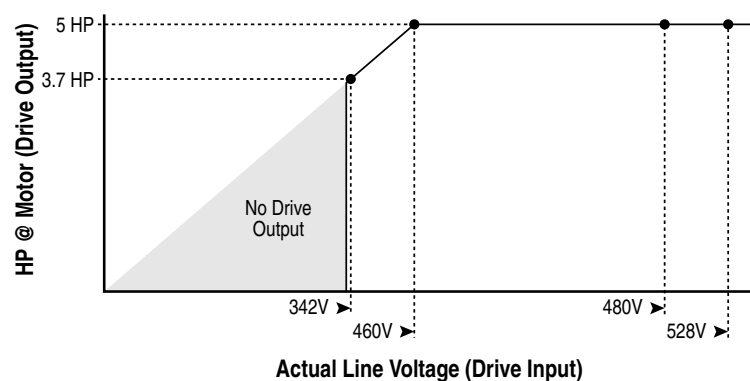


Example:

Calculate the maximum power of a 5 HP, 460V motor connected to a 480V rated drive supplied with 342V Actual Line Voltage input.

- Actual Line Voltage / Nominal Motor Voltage = 74.3%
- $74.3\% \times 5 \text{ HP} = 3.7 \text{ HP}$
- $74.3\% \times 60 \text{ Hz} = 44.6 \text{ Hz}$

At 342V Actual Line Voltage, the maximum power the 5 HP, 460V motor can produce is 3.7 HP at 44.6 Hz.



Motor Control Mode

Parameter 485 [Motor Ctrl Mode] selects the type of motor control to use. This parameter is set during the HIM assisted startup when asked to select the Motor Control. The settings for Parameter 485 [Motor Ctrl Mode] are:

- 0 - “FOC” selects field oriented control. Field oriented control is used with AC squirrel cage induction motors for high performance.
- 1 - “FOC 1” selects field oriented control and is only used for a specific type of AC induction motor with motor thermal feedback. Note: “FOC 2” is used only for motors manufactured by Reliance Electric - Japan.
- 2 - “Pmag Motor” selects control for permanent magnet motors.
- 3 - “V/Hz” selects volts per hertz control. This selection is available in v2.003 and later.
- 4 - “Test” puts the drive in a test mode to perform the direction test. “Test” is automatically selected during the direction test portion of the Start-Up routine and does not need to be set manually by the user.

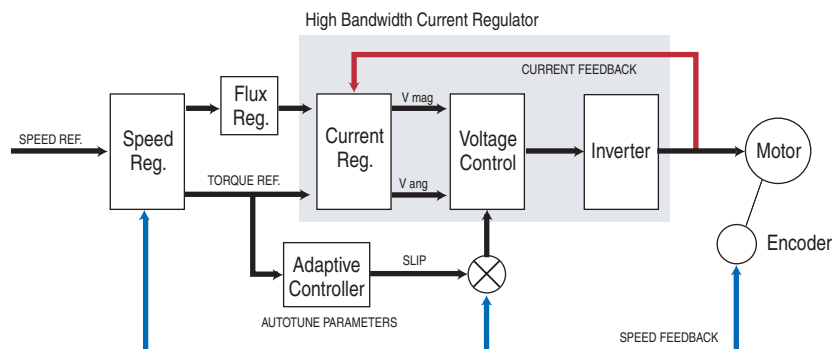
Field Oriented Control, Permanent Magnet Motor Control, and Volts/Hertz Control are described in further detail below.

Field Oriented Control

Field oriented control is used with AC squirrel cage induction motors for high performance. Motor data and an autotune is required for correct operation in this mode. Field oriented control is selected by setting parameter 485 [Motor Ctrl Mode] = 0 “FOC”.

In field oriented control, the drive takes the speed reference that is specified by the Speed Reference selection Block and compares it to the speed feedback. The speed regulator uses Proportional and Integral gains to adjust the torque reference for the motor. This torque reference attempts to operate the motor at the specified speed. The torque reference is then converted to the torque producing component of the motor current.

This type of speed regulator produces a high bandwidth response to speed command and load changes. In field oriented control the flux and torque producing currents are independently controlled. Therefore, you can send a torque reference directly instead of a speed reference. The independent flux control also allows you to reduce the flux in order to run above base motor speed.



Permanent Magnet Control

Permanent magnet control is used with permanent magnet motors. Permanent magnet motor control is selected by setting parameter 485 [Motor Ctrl Mode] = 2 “Pmag Motor”.

- Permanent magnet motor control requires either a Hi-Resolution Stegmann encoder or compatible resolver feedback on the motor.
- Motor data and an autotune is required for correct operation in this mode. Refer to [PowerFlex 700S Permanent Magnet Motor Specifications on page 215](#) for a list of compatible Allen-Bradley permanent magnet motors and motor data to be used with the PowerFlex 700S Phase II drives.

Volts/Hertz Control - v2.003 and Later

Volts/Hertz control is used in fan, pump, or multi-motor applications. Volts/Hertz operation creates a fixed relationship between output voltage and output frequency.

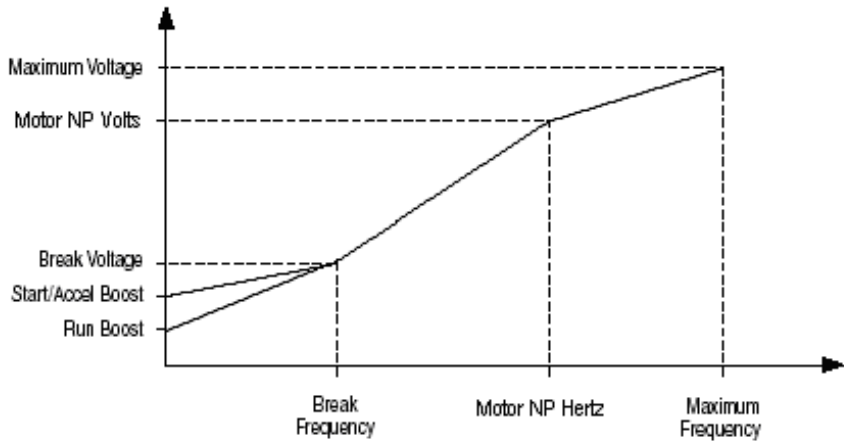
Configuration:

Volts/Hertz control is selected by setting parameter 485 [Motor Ctrl Mode] = 3 “V/Hz”.

Volts/Hertz allows a wide variety of patterns using linear segments. The default configuration is a straight line from zero to rated voltage and frequency. This is the same volts/hertz ratio that the motor would see if it were started across the line. As seen in the diagram below, the volts/hertz ratio can be changed to provide increased torque performance when required. The shaping takes place by programming five distinct points on the curve:

1. Parameter 527 [Start/Acc Boost] is used to create additional torque for breakaway from zero speed and acceleration of heavy loads at lower speeds.
2. Parameter 528 [Run Boost] is used to create additional running torque at low speeds. The value is typically less than the required acceleration torque. The drive will lower the boost voltage to this level when running at low speeds (not accelerating). This reduces excess motor heating that could be caused if the higher start/accel boost level were used.
3. Parameters 529 [Break Voltage] and 530 [Break Frequency] are used to increase the slope of the lower portion of the Volts/Hertz curve, providing additional torque.
4. Parameters 1 [Motor NP Volts] and 3 [Motor NP Hertz] set the upper portion of the curve to match the motor design and mark the beginning of the constant horsepower region.

5. Parameters 531 [Maximum Voltage] and 532 [Maximum Freq] slope that portion of the curve used above base speed.



Motor Overload

Setting Parameter 338 [Mtr I2T Spd Min]

Parameter 338 [Mtr I2T Spd Min] sets the minimum speed for the motor overload (I^2T) function. This value determines the minimum speed the drive should run below the minimum current threshold set in parameter 337 [Mtr I2T Curr Min]. Parameters 338 [Mtr I2T Spd Min] and 337 [Mtr I2T Curr Min] set the first current/speed breakpoint. From this point the current threshold is linear to the value specified by the motor service factor set in parameter 336 [Motor OL Factor].

Figure 3 - Motor Overload Curve When Par 338 [Mtr I2T Spd Min] Is Less Than 1.0

When motor current exceeds the value of the curve, the motor overload output integrates. A motor overload exception event occurs when the value of the motor overload output reaches 1.0. The value of the motor overload output is visible in Par 330 [Fault TP Data] when the value of Par 329 [Fault TP I] equals 13.

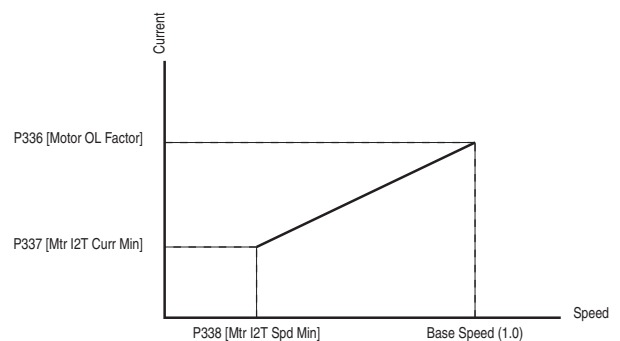
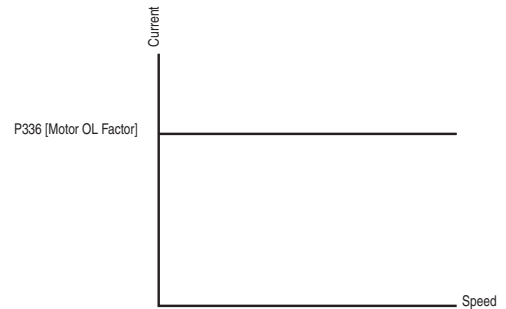


Figure 4 - Motor Overload Curve When Par 338 [Mtr I2T Spd Min] Is Equal To 1.0

When the value of Par 338 [Mtr I2T Spd Min] equals 1.0, the curve is flat - at the value of rated motor current times the value of Par 336 [Motor OL Factor]. If the motor current exceeds the value of the curve, the value of the motor overload output integrates. The value of the motor overload output is visible in Par 330 [Fault TP Data] when the value of Par 329 [Fault TP I] equals 13.



Motor Overload Memory Retention Per 2005 NEC

The PowerFlex 700S drive with Phase II control (firmware 3.001 and higher) has the ability to retain the motor overload count at power down per the 2005 NEC motor overtemperature requirement.

- To enable motor overload memory retention, set bit 20 “Motor OL Ret” of parameter 153 [Control Options] to “1”.
- To disable motor overload memory retention, set bit 20 “Motor OL Ret” of parameter 153 [Control Options] to “0”.

The motor overload count value can be viewed in parameter 341 [Mtr I2T Count].

Motors with Compatible Thermistor Ratings

Motor Type	Motor (kW)	Type (Catalog No.) ⁽¹⁾	Poles	Base Speed (RPM)	Voltage (Vrms)	Rated Current (Arms)	Ex. Current (Arms)	GD2 (Kg/m ²)
200 STD Motor	1.5	M-51027	4	1500	180	7.5	-	0.024
	2.2	M-51028	4	1500	180	11	-	0.045
	3.7	M-51001	4	1500	180	18	-	0.066
	3.7	M-51007-1	4	1500	180	18	-	0.066
	5.5	M-51002	4	1500	180	25	-	0.12
	5.5	M-51008-1	4	1500	180	25	-	0.12
	7.5	M-51003	4	1500	180	33	-	0.15
	7.5	M-51009-1	4	1500	180	33	-	0.15
	11	M-51004	4	1500	180	47	-	0.32
	11	M-51010-1	4	1500	180	47	-	0.32
	15	M-51005	4	1500	180	63	-	0.43
	15	M-51011-1	4	1500	180	63	-	0.43
	18.5	M-51012	4	1500	180	81	-	0.71
	18.5	M-51012-1	4	1500	180	81	-	0.71
	22	M-51013	4	1500	180	95	-	0.82
	22	M-51013-1	4	1500	180	95	-	0.82
	30	M-51050	4	1500	155	145	-	0.83
	37	M-51051	4	1500	155	183	-	1.1
	45	M-51052	4	1500	155	220	-	1.4
	55	M-51053	4	1500	155	265	-	2
	75	M-51054	4	1500	155	346	-	2.7
200 SVO Motor	0.75	M-51043	4	1500	140	5.3	-	0.0075
	1.5	M-51015	4	1500	140	11.4	-	0.0100
	2.2	M-51016	4	1500	140	15	-	0.0120
	3.7	M-51017	4	1500	140	24.5	-	0.0180
	5.5	M-51018	4	1500	140	34.8	-	0.0390
	7.5	M-51019	4	1500	140	44	-	0.0470
	11	M-51020	4	1500	140	67.1	-	0.0810
	15	M-51021	4	1500	140	80.7	-	0.1370
	22	M-51022	4	1500	140	120	-	0.2000
	30	M-51023	6	1000	155	176	-	0.5800
	37	M-51024	6	1000	155	210	-	0.7000
	55	M-51026	6	1000	135	334	-	1.1000
	55	M-51027	6	500	155	315	-	4.0000
400 STD Motor	1.5	MC-M2051	4	1500	320	4.7	2.0045	-
	2.2	MC-M2052	4	1500	320	6.3	3.24	-
	3.7	MC-M2053	4	1500	320	10	5.25	-
	5.5	MC-M2054	4	1500	320	15.5	8.8	-
	7.5	MC-M2055	4	1500	320	20.5	11.25	-
	11	MC-M2056	4	1500	320	29	14.3	-
	15	MC-M2057	4	1500	320	37	16.4	-
	18.5	MC-M2058	4	1500	320	45	19.65	-
	22	MC-M2059	4	1500	320	53	23	-
	30	MC-M2060	4	1500	320	71	28.15	-
	37	MC-M2061	4	1500	320	85	29.7	-
	45	MC-M2062	4	1500	320	97	30.55	-
	55	MC-M2063	4	1500	320	121	-	-
	75	MC-M2064	4	1500	320	163	-	-
	90	MC-M2065	4	1500	320	188	-	-
	110	MC-M2066	4	1500	320	227	-	-
	132	MC-M2067	4	1500	320	280	-	-
	160	MC-M2068	4	1500	320	335	-	-
	200	MC-M2069	4	1500	320	375	-	-

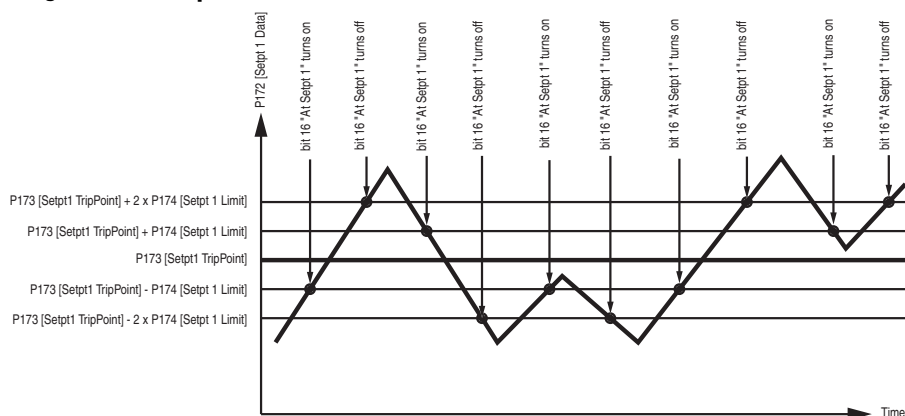
Motor Type	Motor (kW)	Type (Catalog No.)(1)	Poles	Base Speed (RPM)	Voltage (Vrms)	Rated Current (Arms)	Ex. Current (Arms)	GD2 (Kg/m ²)
400 SVO Motor	1.5	MC-M20	4	1500	280	5.4	-	-
	2.2	MC-M20	4	1500	280	7.3	-	-
	3.7	MC-M20	4	1500	280	12.3	-	-
	5.5	MC-M20	4	1500	280	17.3	-	-
	7.5	MC-M20	4	1500	280	22	-	-
	11	MC-M20	4	1500	280	34	-	-
	15	MC-M20	4	1500	280	42	-	-
	22	MC-M20	4	1500	280	58.5	-	-
	22	MC-M20	4	1500	280	58.5	-	-
	30	MC-M20	6	1000	280	88	-	-
	37	MC-M20	6	1000	280	125	-	-

(1) Manufacturer, Reliance Electric-Japan, catalog number for ordering.

Setpt 1 Data

Provides data for comparison of Par 172 [Setpt 1 Data] to Par 173 [Setpt1 TripPoint], driving bit 16 “At Setpt 1” of Par 155 [Logic Status].

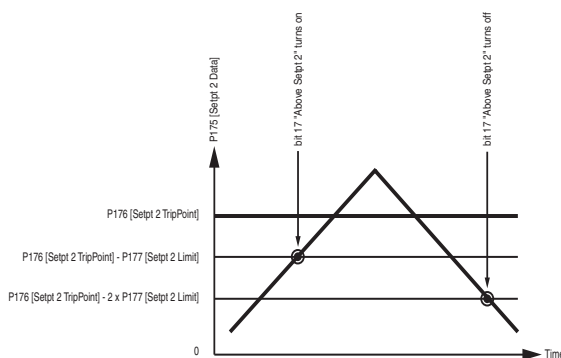
Figure 5 - At Setpoint 1 Status



Setpt 2 Data

Provides data for comparison of Par175 [Setpt 2 Data] to Par 176 [Setpt2 TripPoint], driving bit 17 “Above Setpt 2” of Par 155 [Logic Status].

Figure 6 - Above Setpoint 2 Status



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.

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

Figure 7 - Drive Operation When Par 154 [Stop Dwell Time] Equals Zero

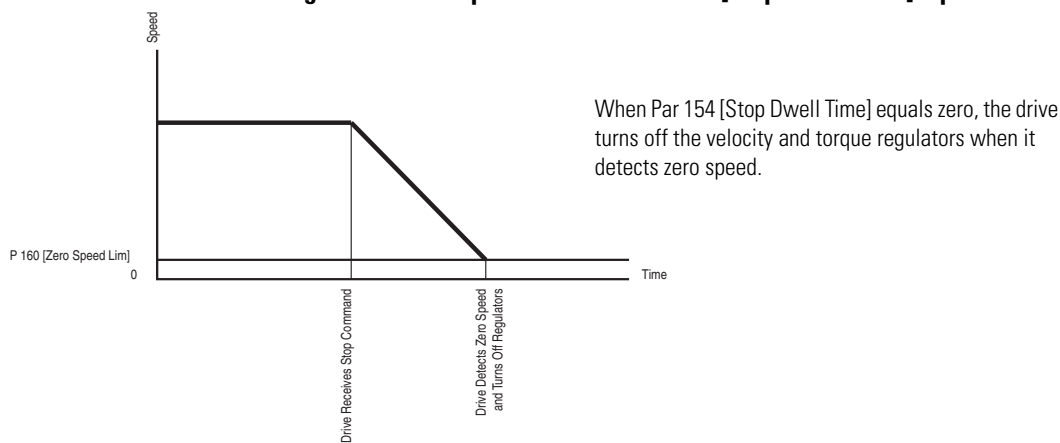
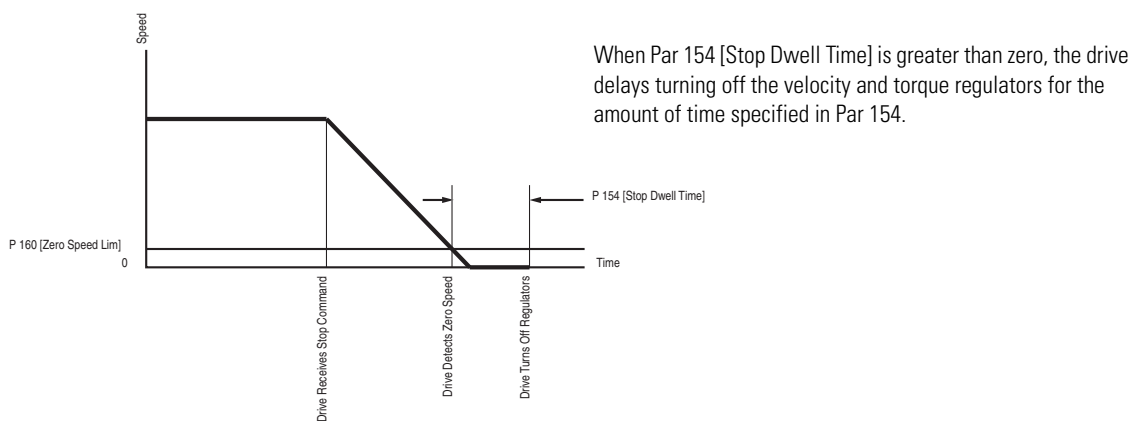


Figure 8 - Drive Operation When Par 154 [Stop Dwell Time] is Greater Than Zero



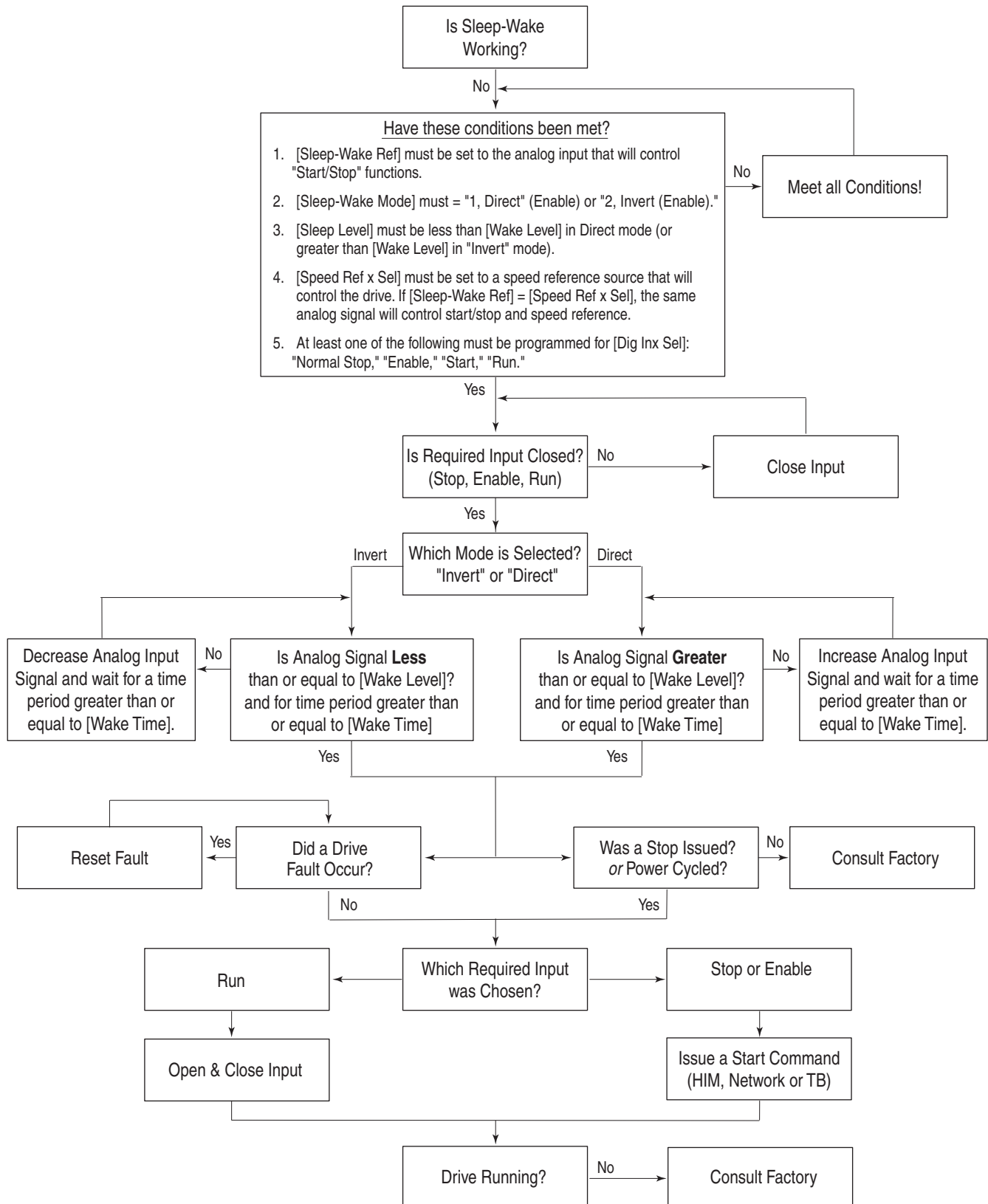
Sleep-Wake Mode

This function stops (sleep) and starts (wake) the drive based on separately configured analog input levels rather than discrete start and stop signals. When enabled in “Direct” mode, the drive will start (wake) when an analog signal is greater than or equal to the user specified [Wake Level], and stop the drive when an analog signal is less than or equal to the user specified [Sleep Level]. When Sleep-Wake mode is enabled for “Invert” mode, the drive will start (wake) when an analog signal is less than or equal to the user-specified [Wake Level], and stop the drive when an analog signal is greater than or equal to the user-specified [Sleep Level]. See [Figure 9 on page 185](#) for more information on Sleep-Wake mode configuration.

Definitions

- Wake - A start command generated when the analog input value remains above [Wake Level] (or below when Invert mode is active) for a time greater than [Wake Time].
- Sleep - A Stop command generated when the analog input value remains below [Sleep Level] (or above when Invert mode is active) for a time greater than [Sleep Time].
- Speed Reference – The active speed command to the drive as selected by drive logic and [Speed Ref x Sel].
- Start Command - A command generated by pressing the Start button on the HIM, closing a digital input programmed for Start, Run, Run Forward or Run Reverse.

Figure 9 - Sleep-Wake Mode Flow Chart



Notes:

Control Block Diagrams

List of Control Block Diagrams

Flow diagrams on the following pages illustrate the drives' control algorithms.

For Information on ...	See Page ...
Overview	189
Speed Control - Reference Select	190
Speed Control - Reference	191
Speed Control - Regulator	192
Process Control	193
Torque Control - Torque	194
Torque Control - Current	195
Speed/Position Feedback	196
Inputs & Outputs - Digital	197
Inputs & Outputs - Analog	198
Control Logic	199
Position Control - Interp/Direct	200
Position Control - Point-to-Point	201
Position Control - Auxiliary/Control	202
Point-To-Point Motion Planner	203
Phase Locked Loop	204
Virtual Master Encoder	205
User Functions 1	206
User Functions 2	207
Synchlink	208
V/Hz	209
Diagnostic Tools	210
Inverter Overload IT	211
DriveLogix Connection - Speed Control	212
DriveLogix Connection - Position Control	213
DriveLogix Connection - Motion Control	214

Diagram Conventions and Definitions

Definitions of the Per Unit system:
1.0 PU Position = Distance traveled / 1 sec at Base Spd
1.0 PU Speed = Base Speed of the Motor
1.0 PU Torque = Base Torque of the Motor

Symbols:

Read Only Parameter

Read / Write Parameter

Read Only Parameter with Bit Enumeration

Read / Write Parameter with Bit Enumeration

Provides additional information

() = Enumerated Parameter

[] = Page and Coordinate
ex. 3A2 = pg 3, Column A, Row 2

= Constant value

Processor Task time selection:

NOTE: Faster Task time selections may require program functions to be disabled to stay within processor load capabilities.

FW TaskTime Sel

FW TaskTime ActI

	val = 0	val = 1	val = 2
Task 1	0.5 mS	0.5 mS	0.25 mS
Task 2	2.0 mS	1.0 mS	1.0 mS
Task 3	8.0 mS	8.0 mS	8.0 mS

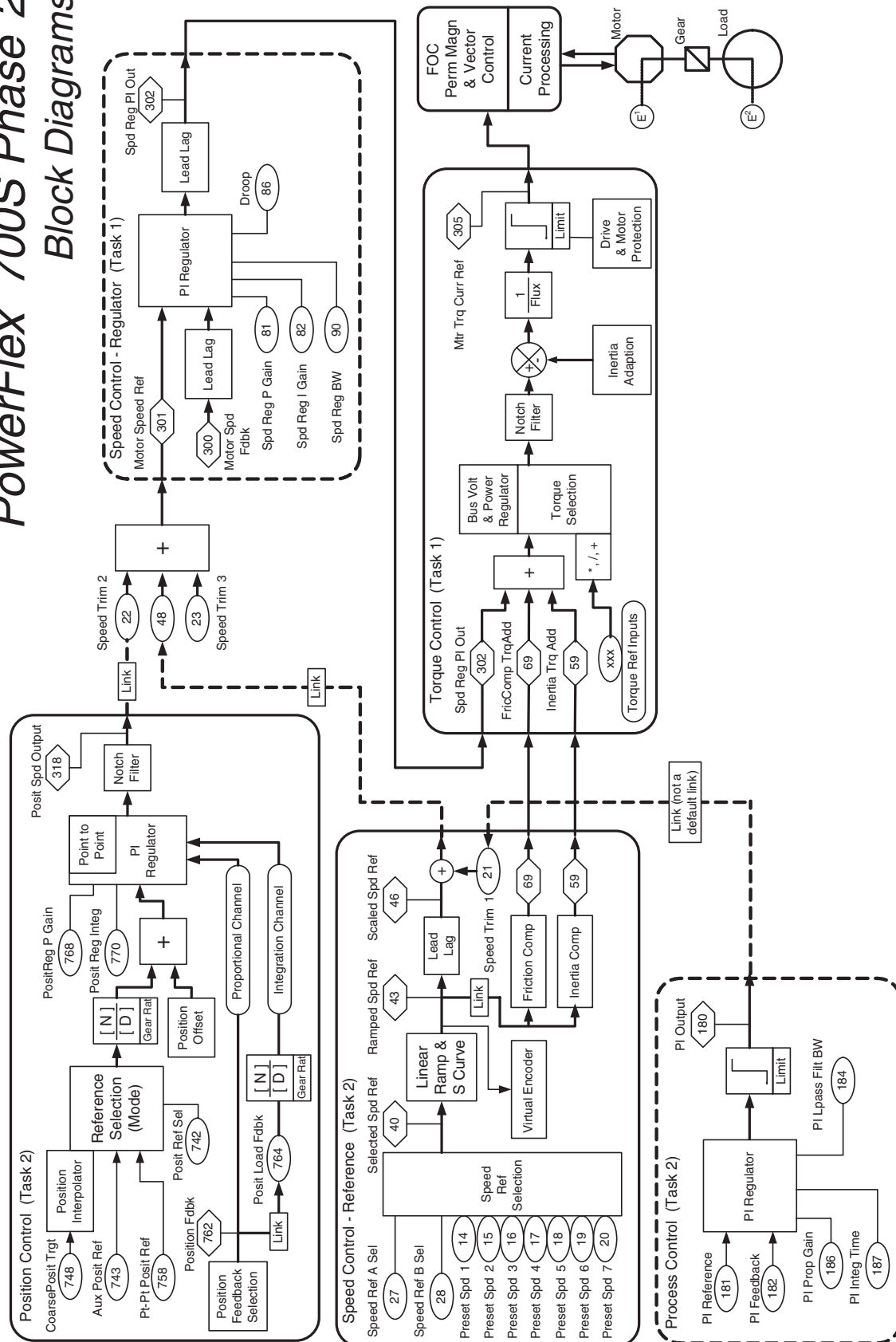
* Notes, Important :

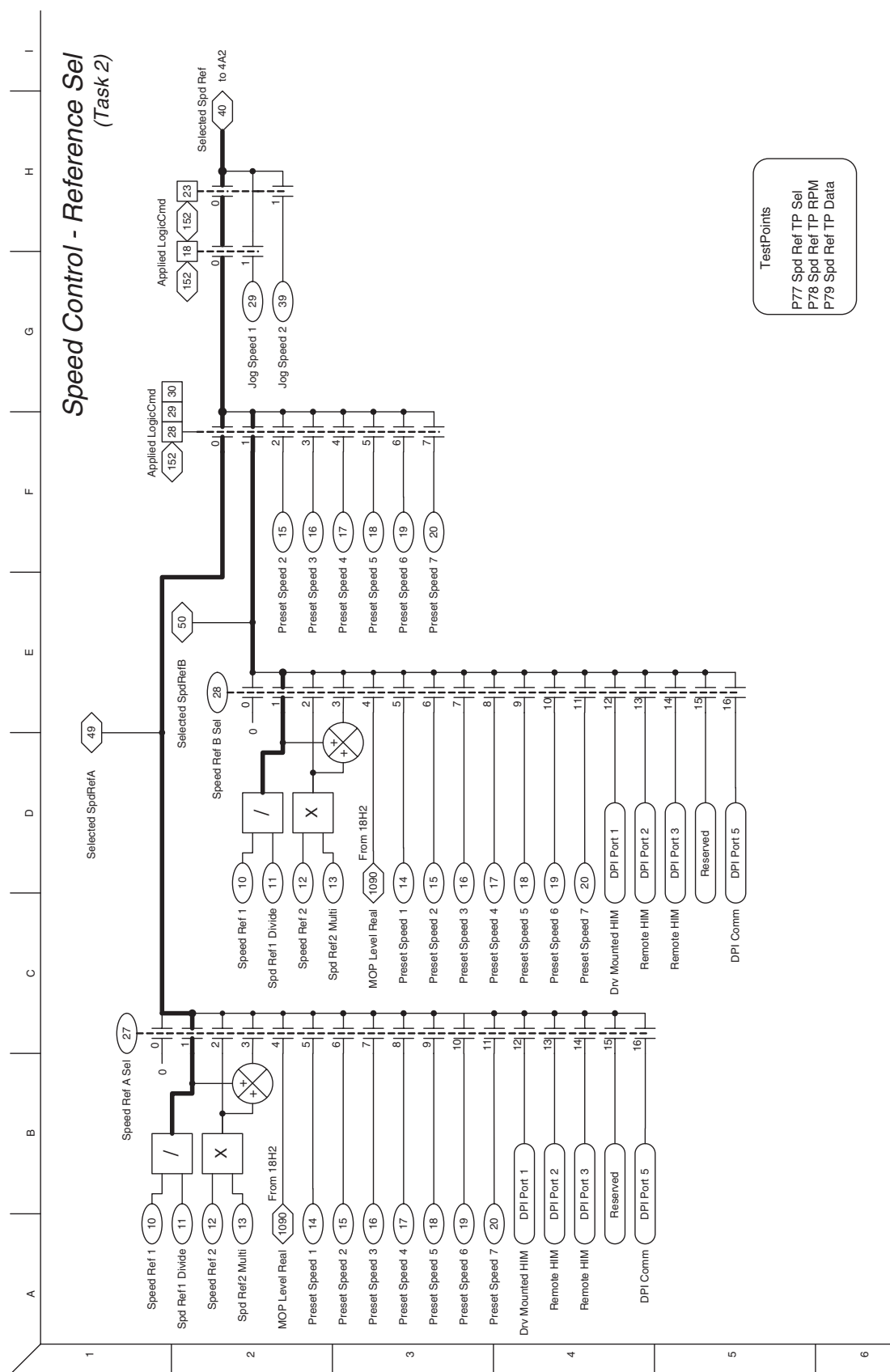
(1) Parameter 147 [FW Functions EN] is used to activate and deactivate firmware functions. The PowerFlex 700S drives ships with the position regulator deactivated. To enable the position regulator, set Parameter 147, bit 16 to 1 "On".

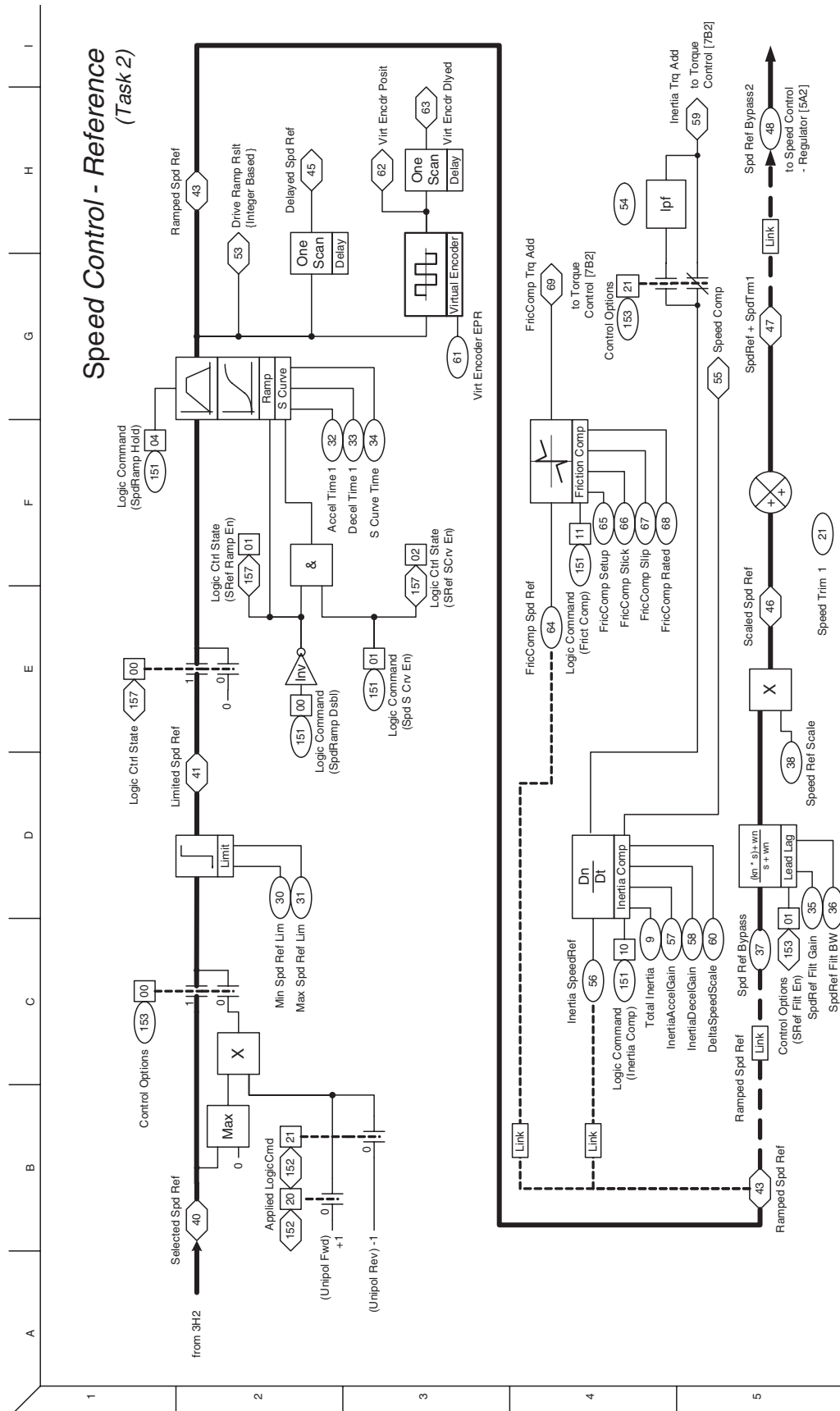
(2) Parameter 1000 [UserFunct Enable] is used to activate and deactivate the User Functions.

(3) These diagrams are for reference only and may not accurately reflect all logical control signals; actual functionality is implied by the approximated diagrams. Accuracy of these diagrams is not guaranteed.

PowerFlex 700S Phase 2 Block Diagrams





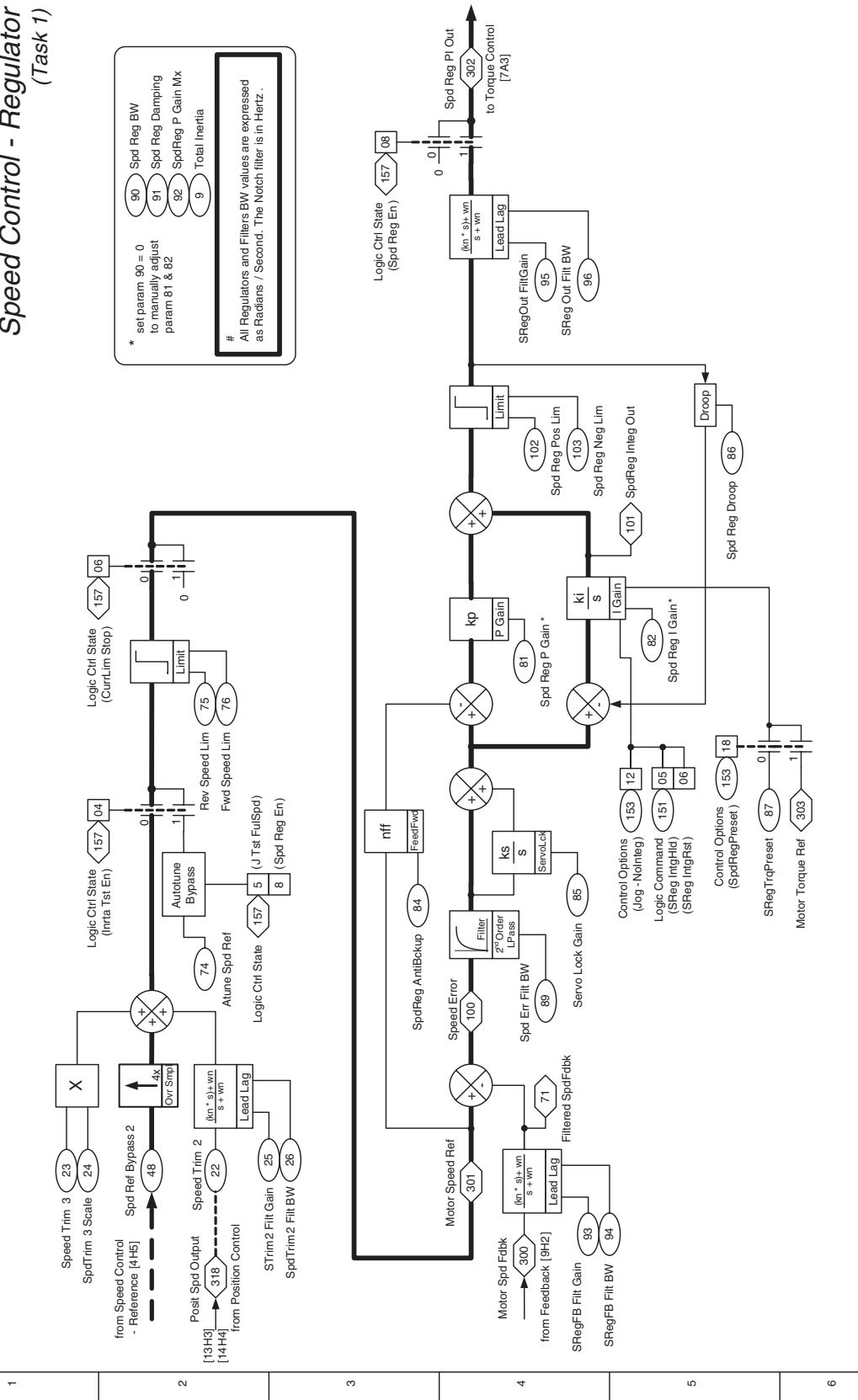


Speed Control - Regulator (Task 1)

* set param 90 = 0
to manually adjust
param 81 & 82

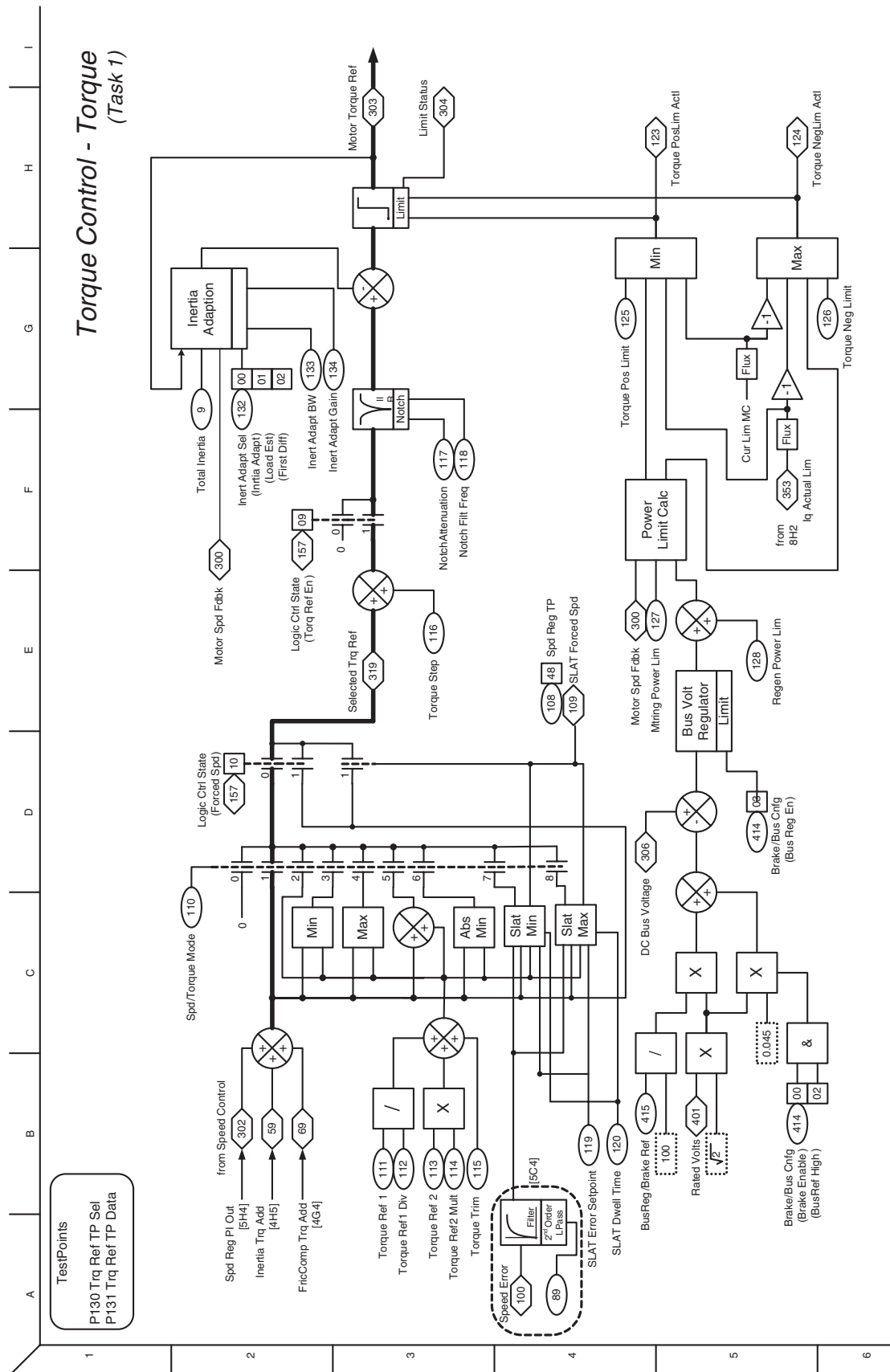
All Regulators and Filters BW values are expressed
as Radians / Second. The Notch filter is in Hertz .

90 Spd Reg BW
91 Spd Reg Damping
92 SpdReg P Gain Mx
9 Total Inertia



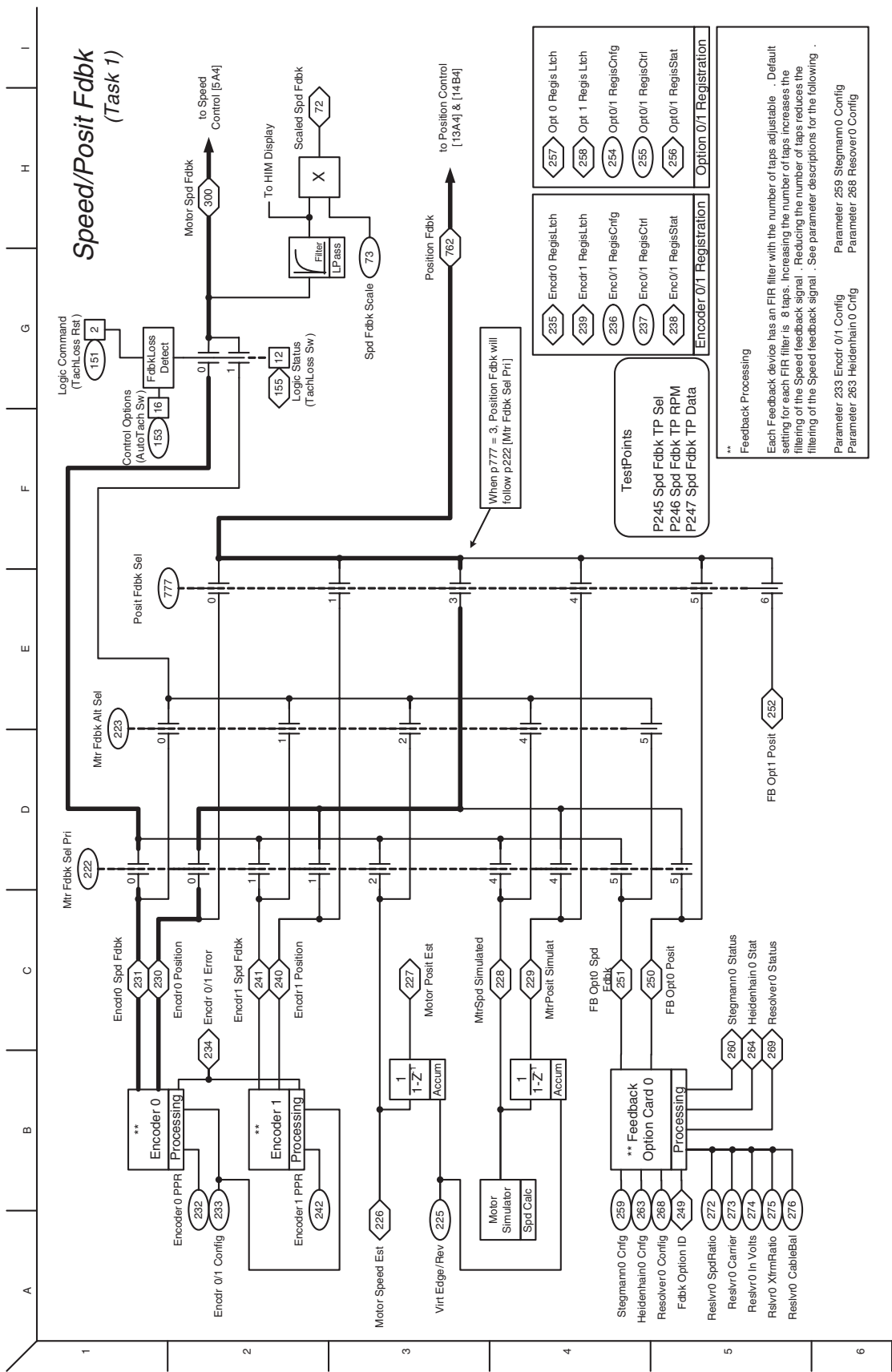
A horizontal timeline with points A, B, C, D, E, F, G, H, and I marked along it. The points are distributed such that the intervals between them are not equal, with a notably larger gap between A and B compared to the others.



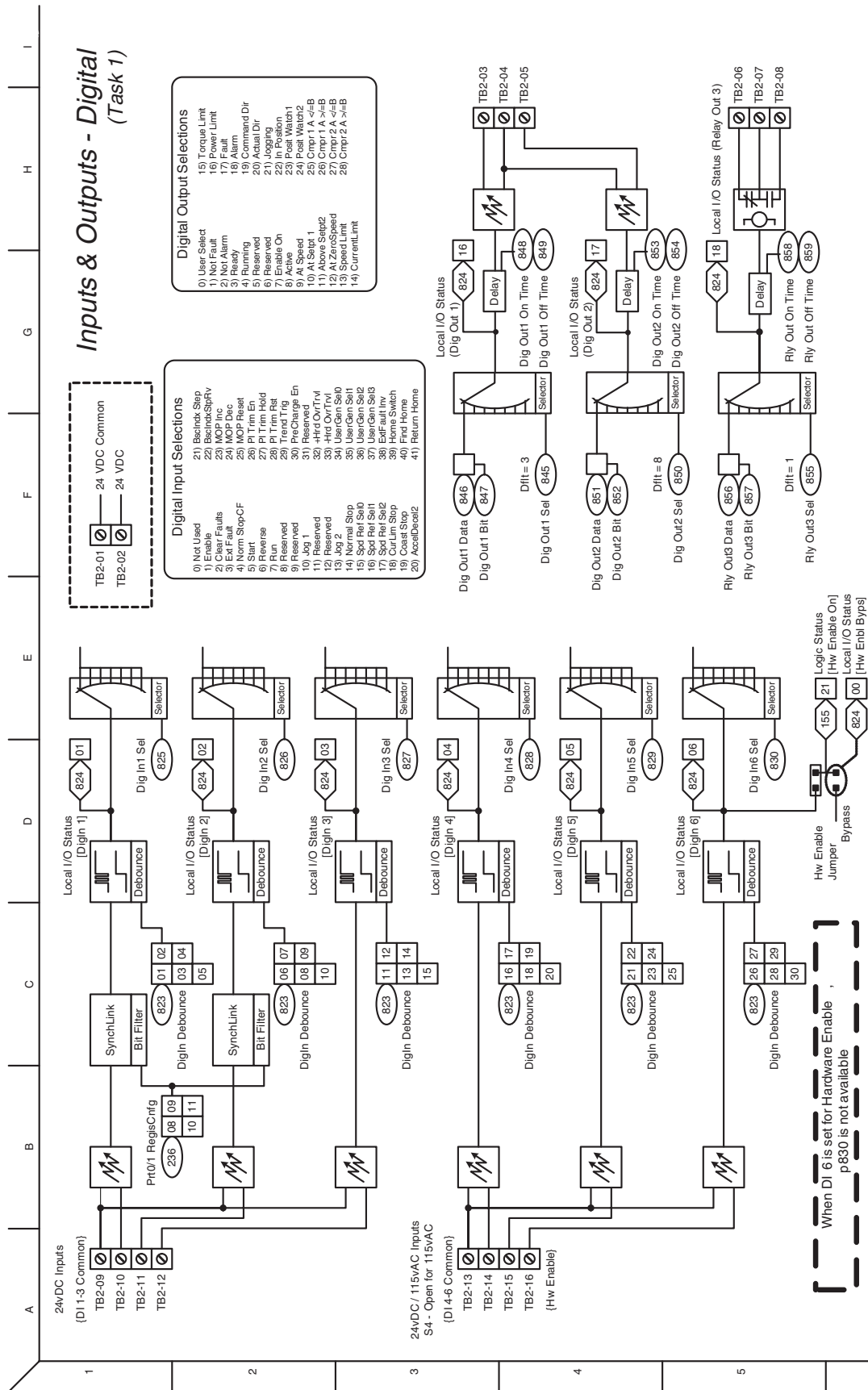


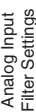
	A	B	C	D	E	F	G	H	I
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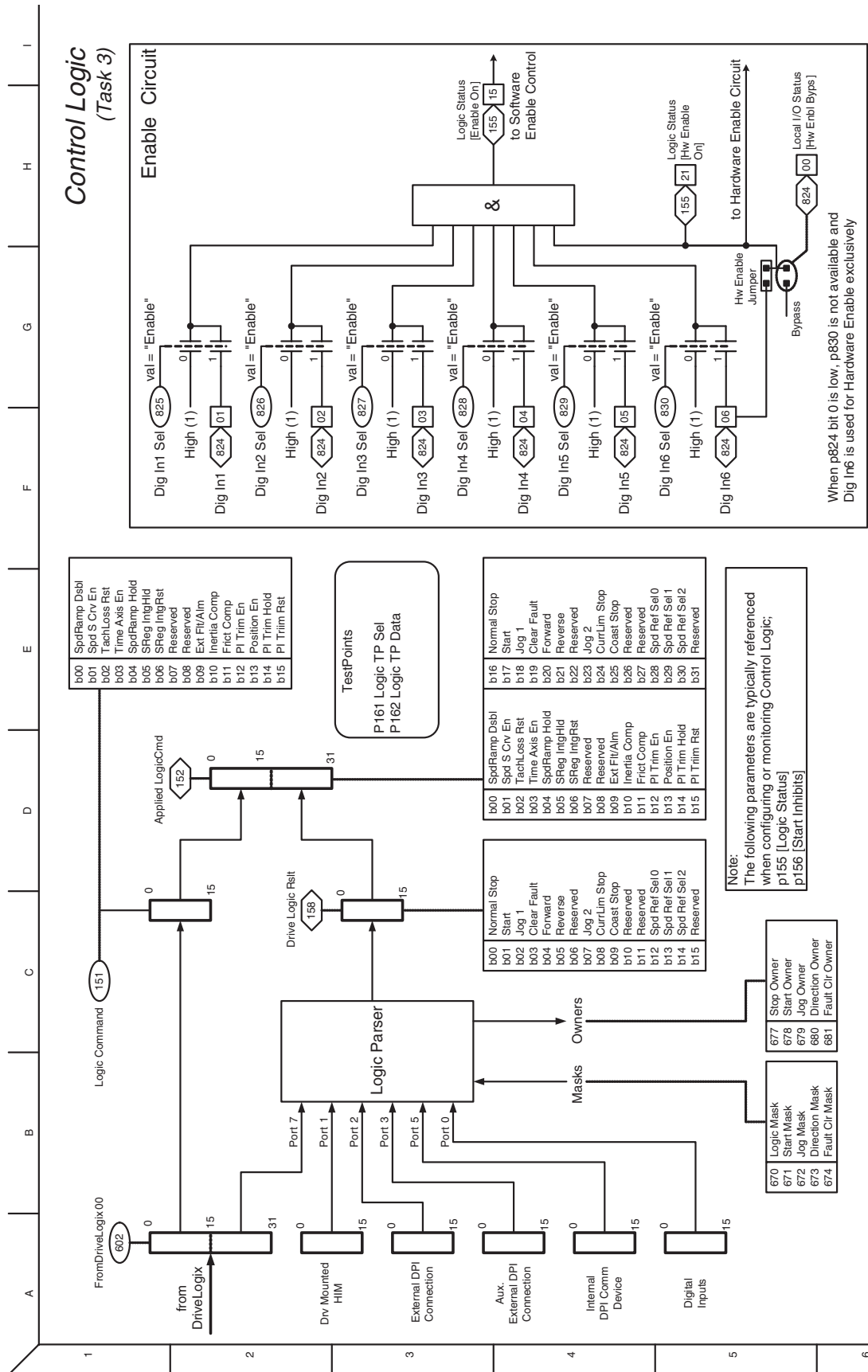




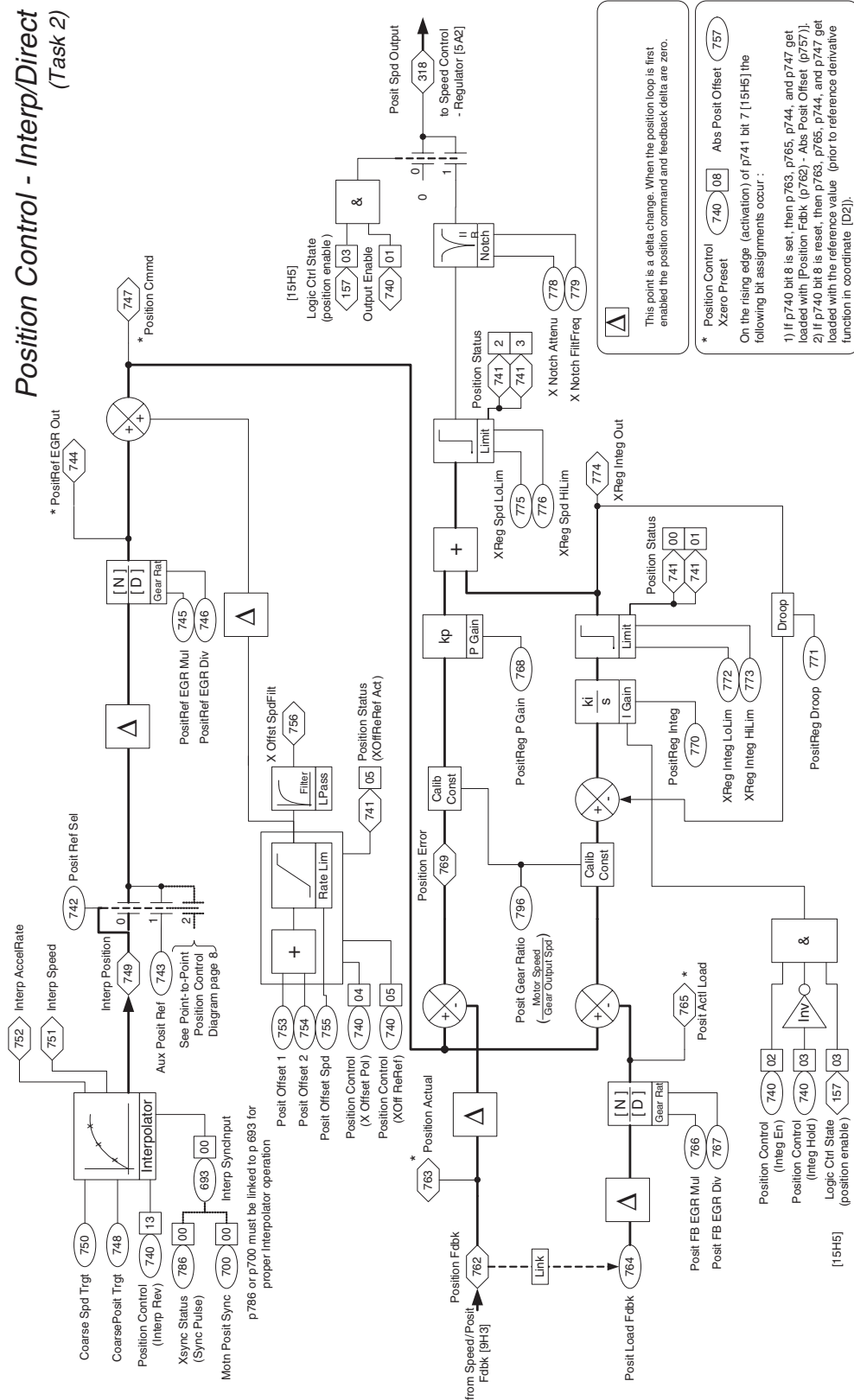
Inputs & Outputs - Digital (Task 1)



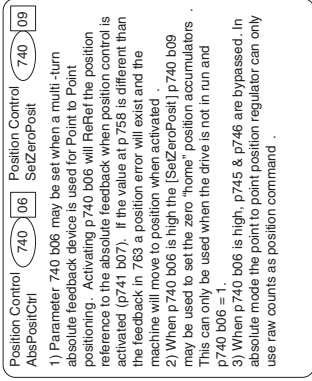




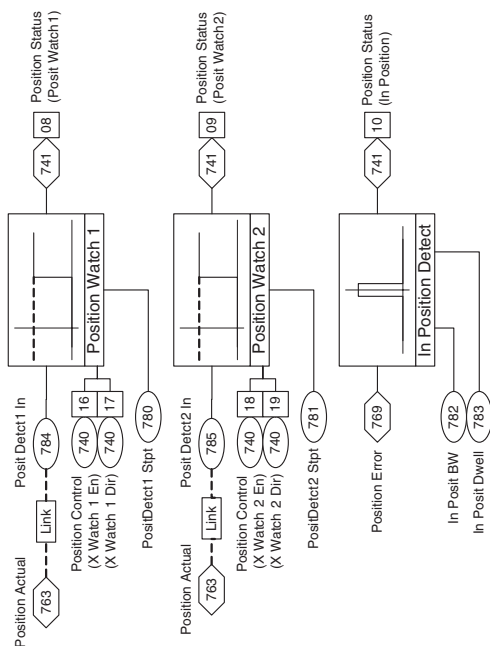
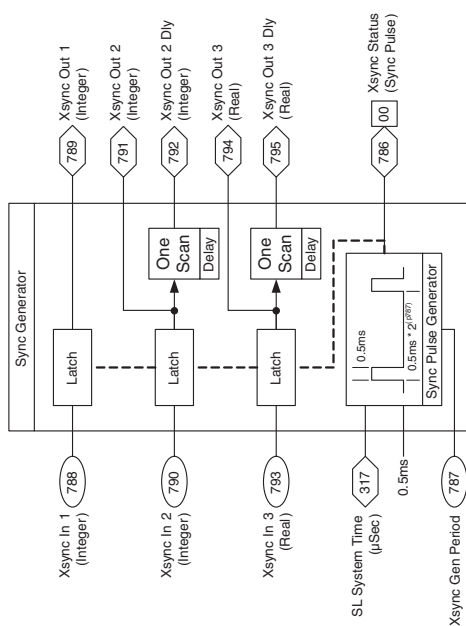
Position Control - Interp/Direct
(Task 2)



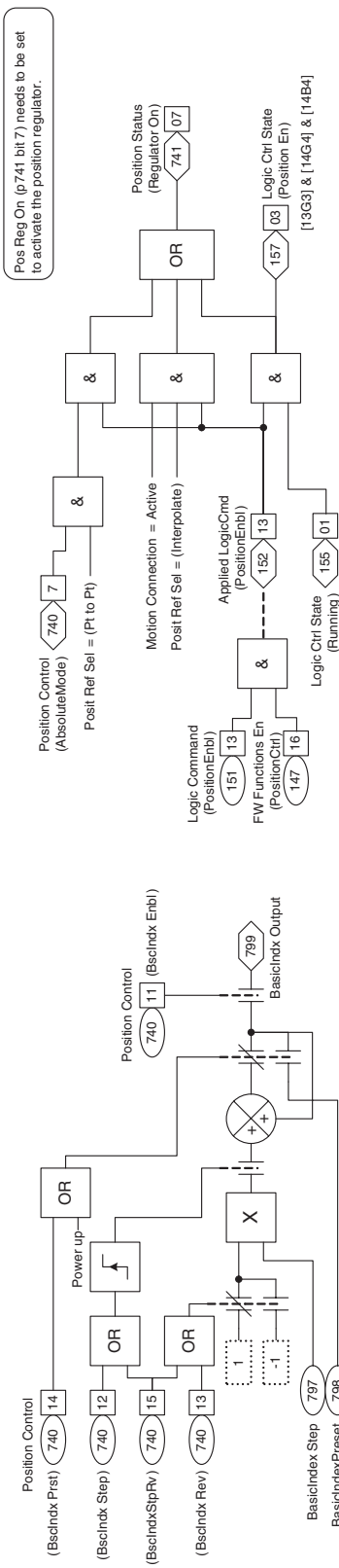
(Task 2)

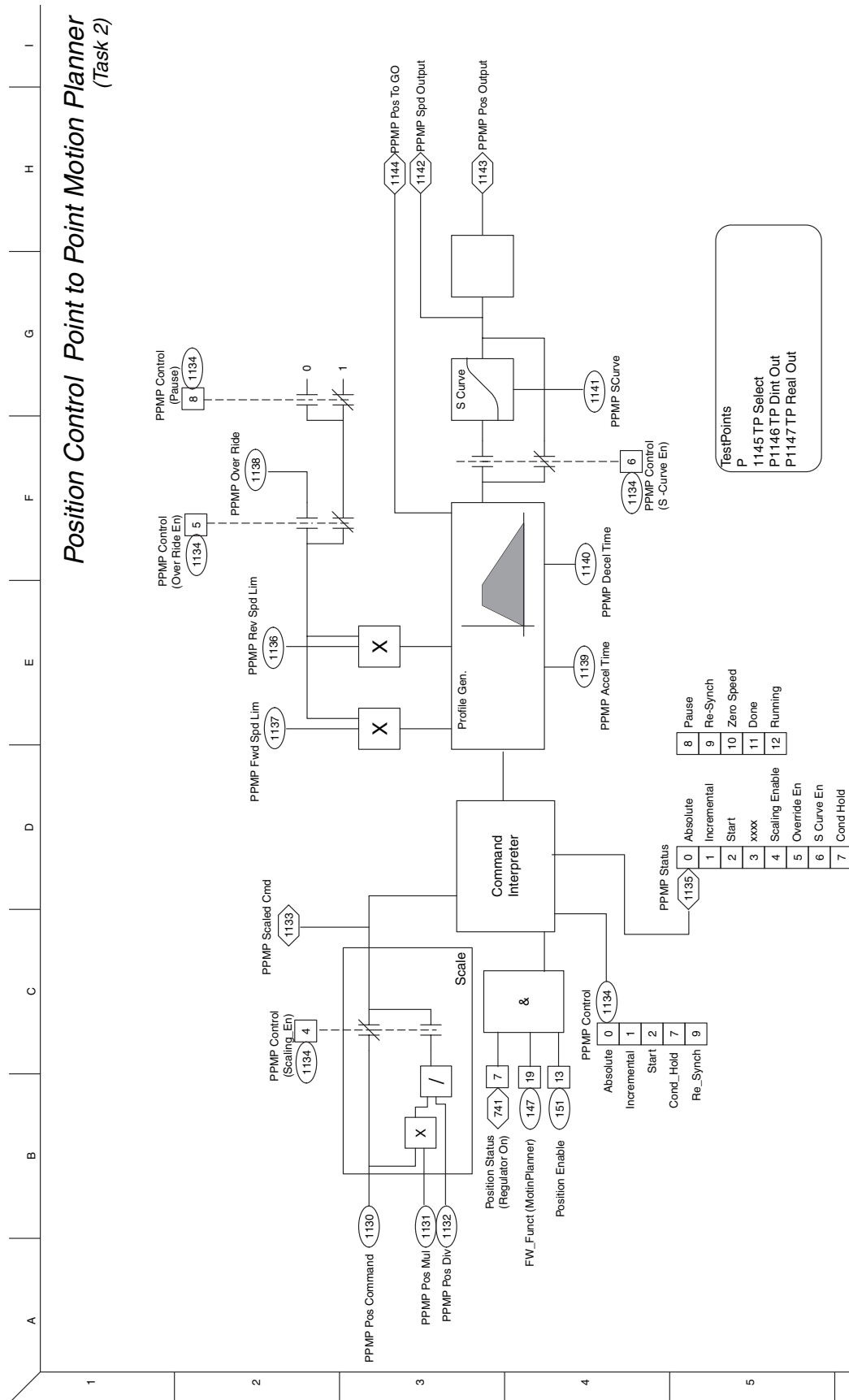


Position Control - Aux / Control (Task 2)

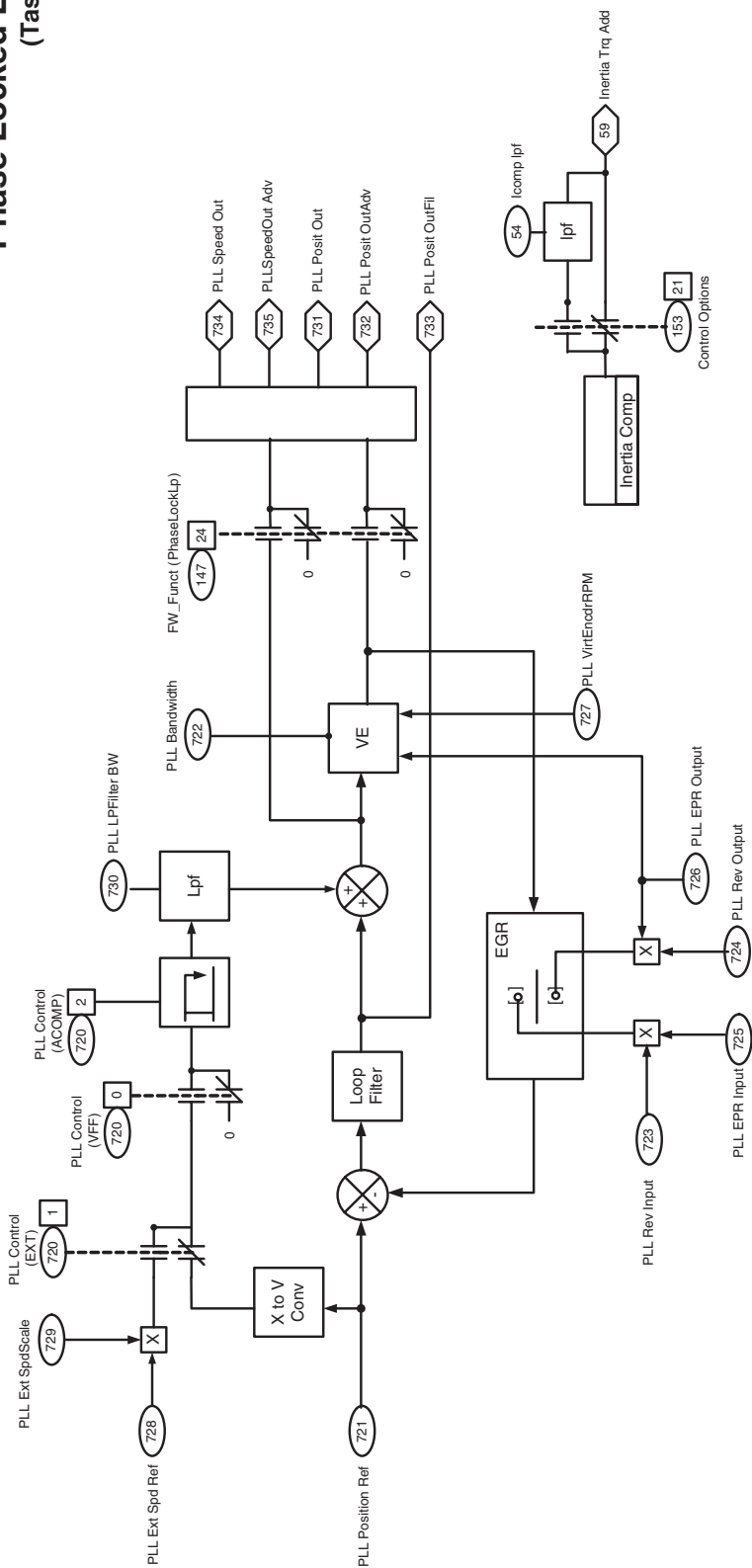


Auxiliary Control





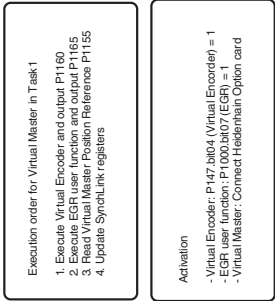
Phase Locked Loop (Task 1)



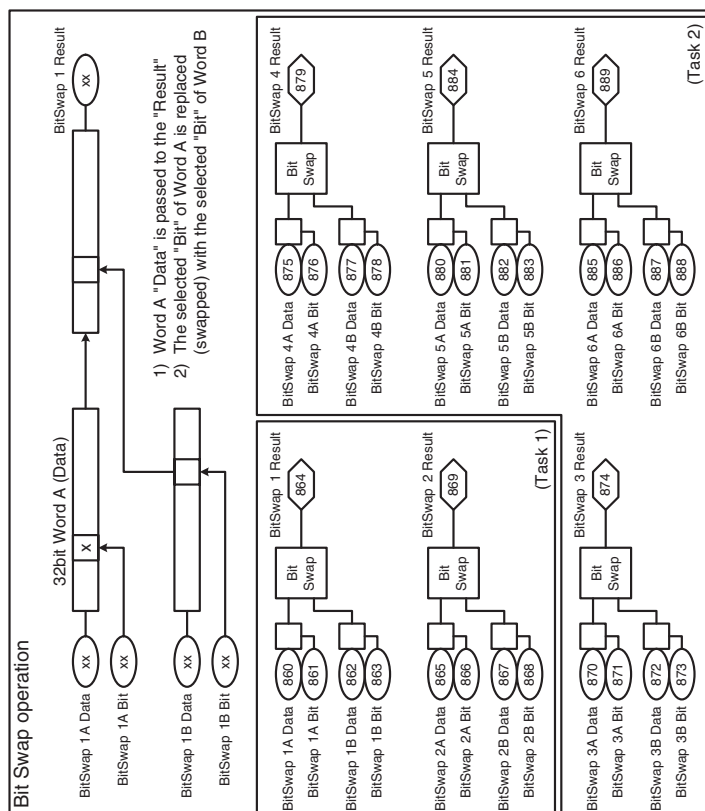
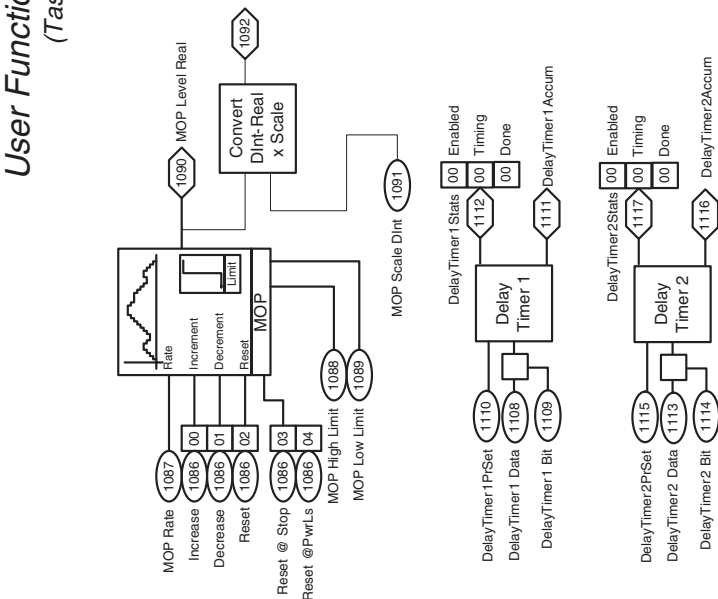
Test Points

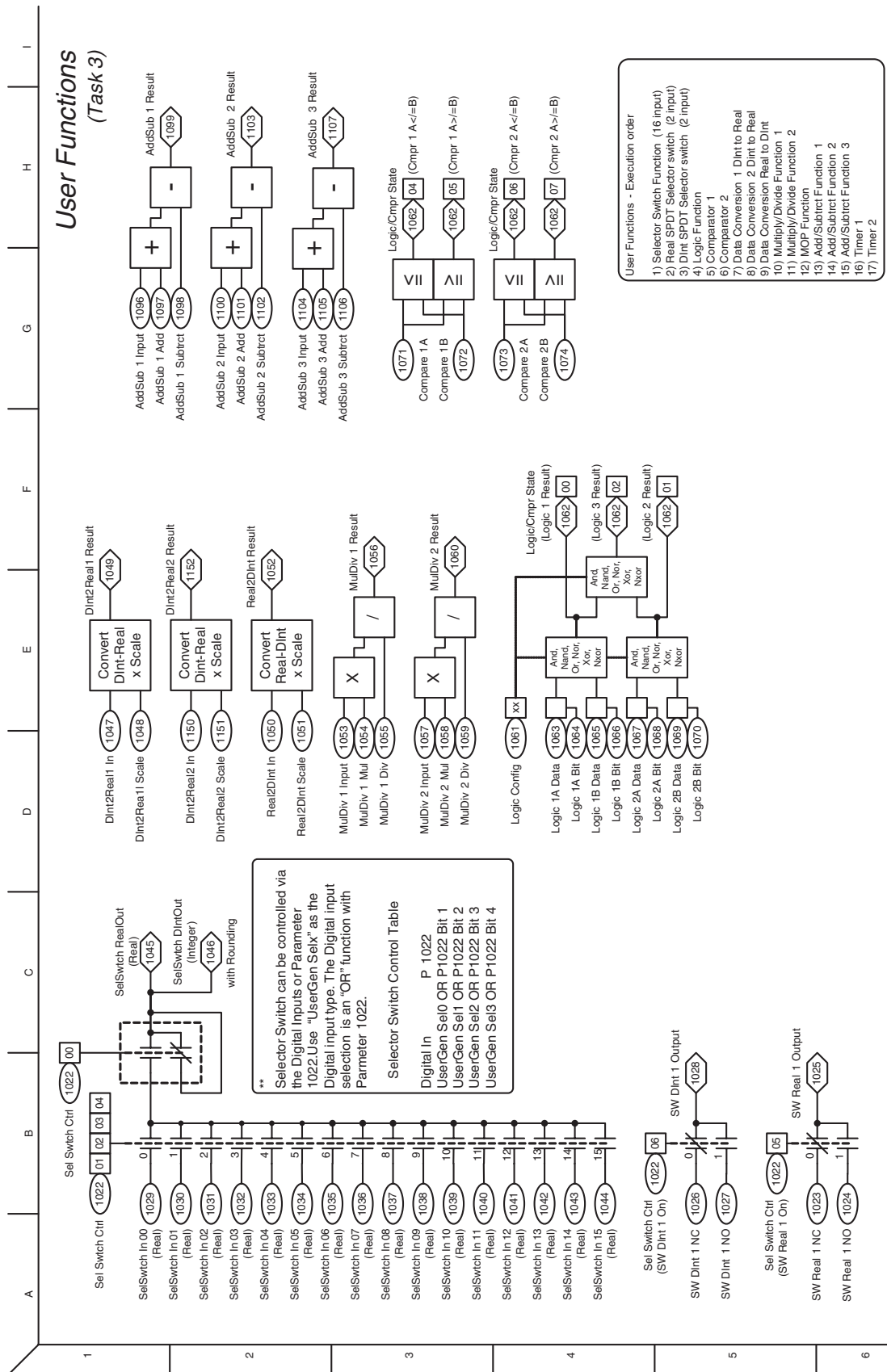
P717 – PLL TP Select
P718 – PLL DataInt
P719 – PLL DataReal

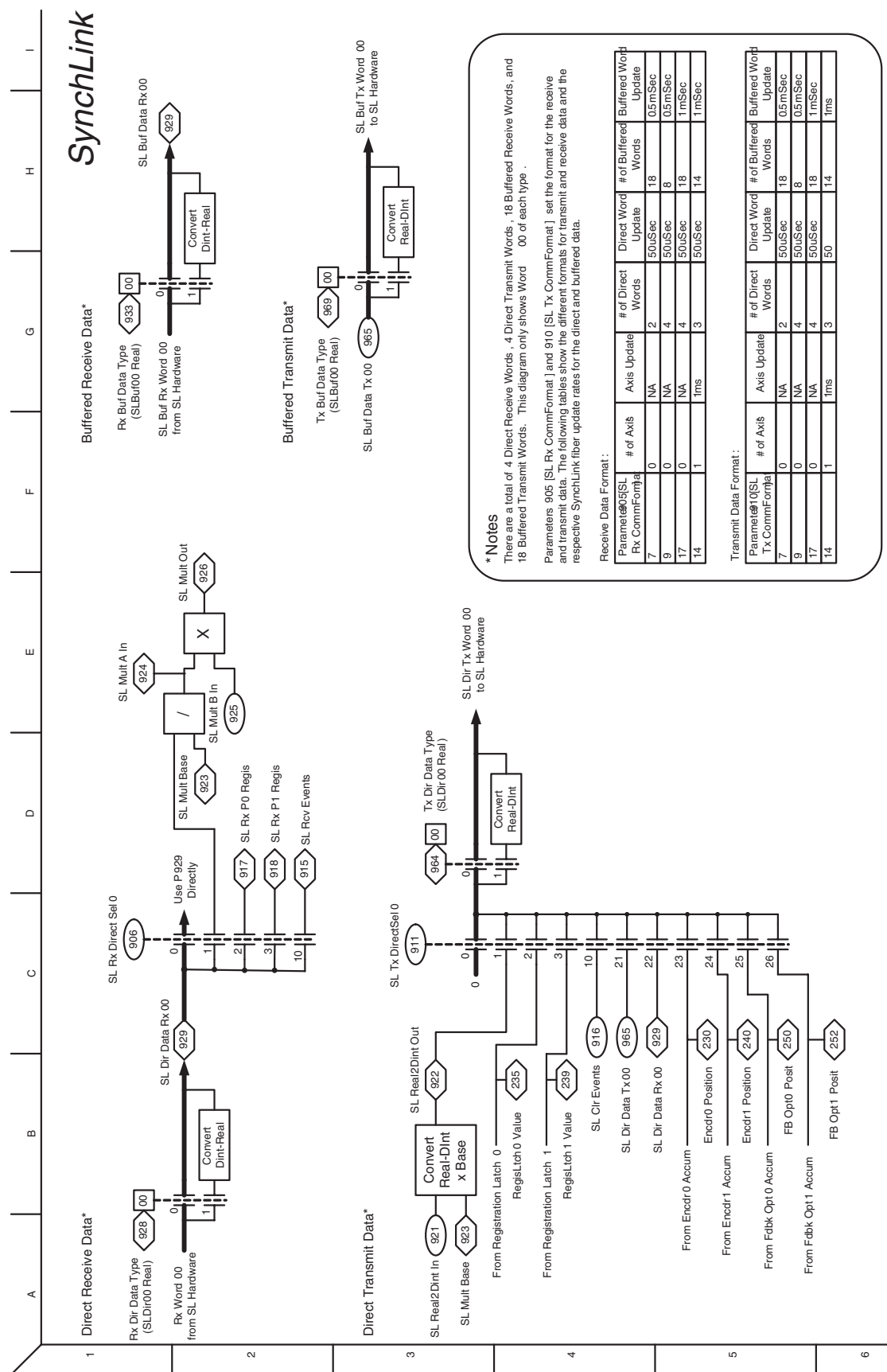
P717 – PLL TP Select
P718 – PLL DataInt
P719 – PLL DataReal

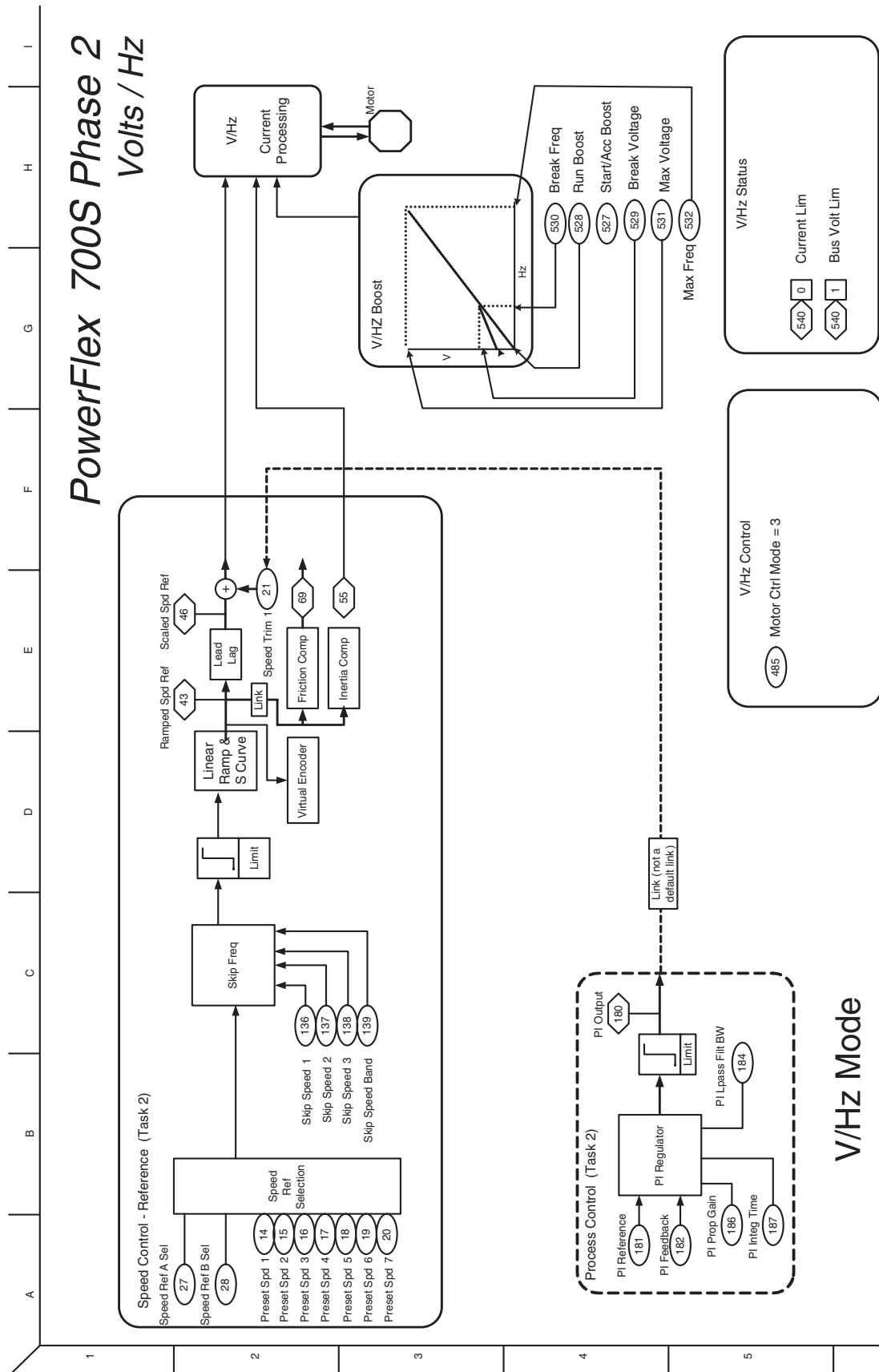


User Functions
(Task 3)

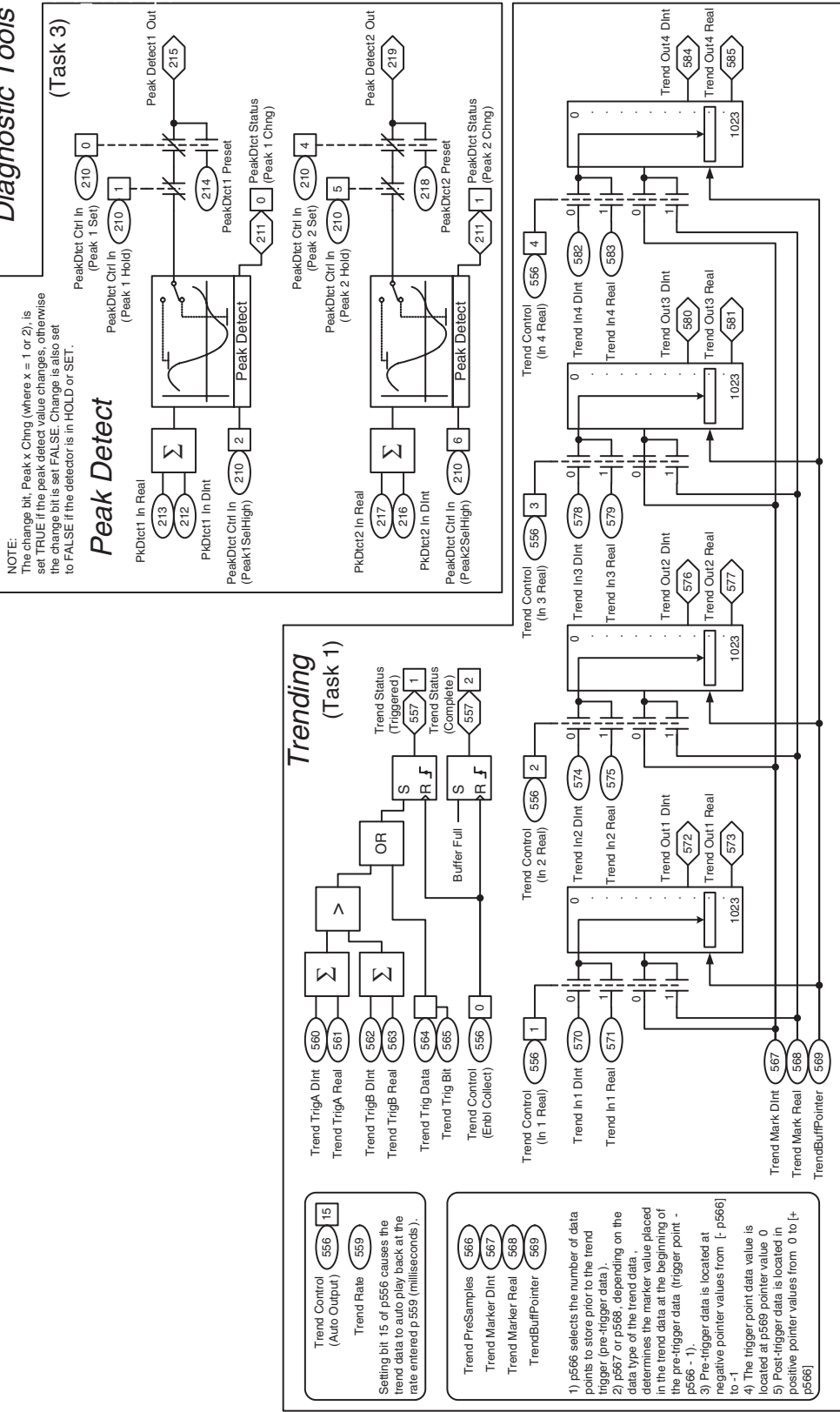




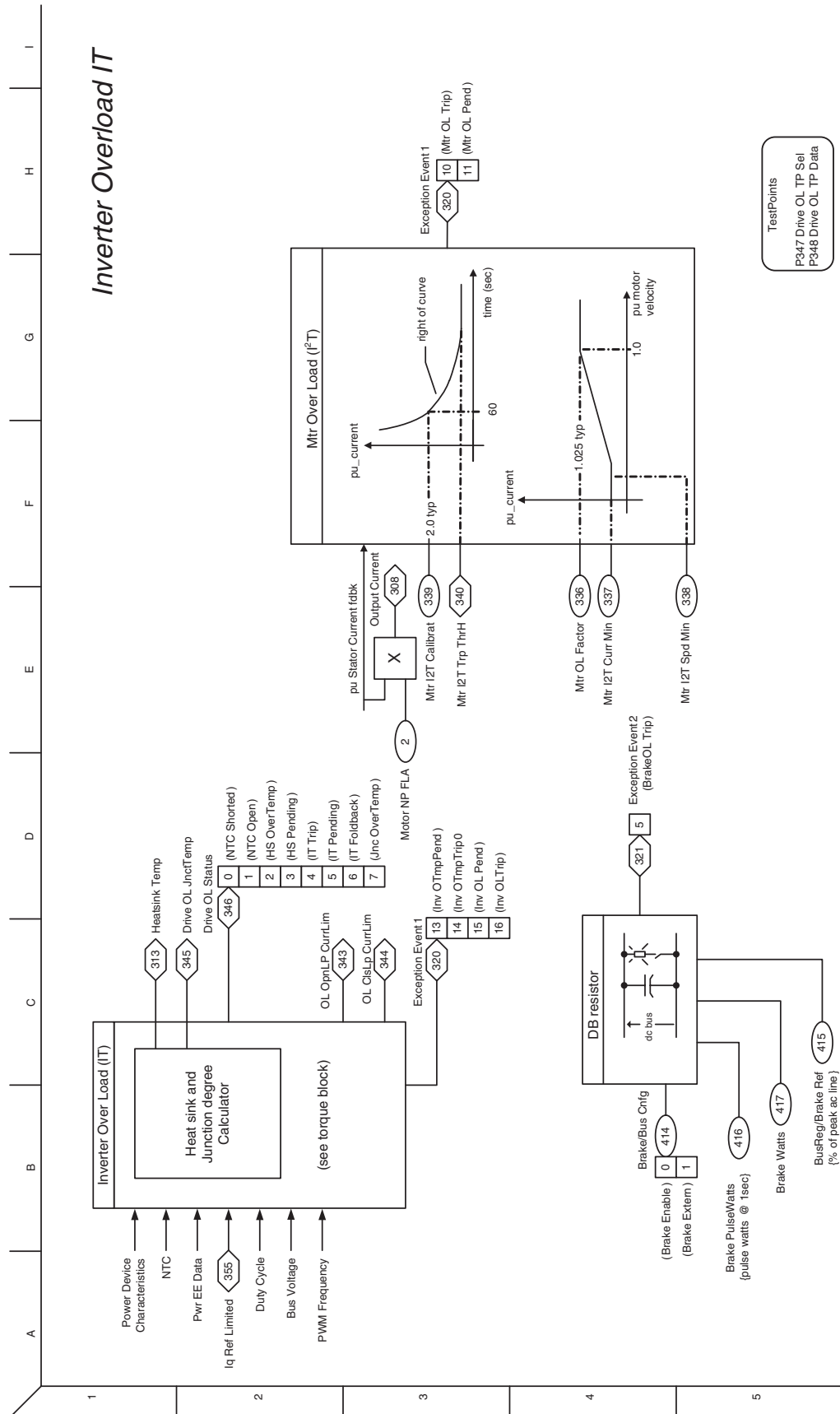




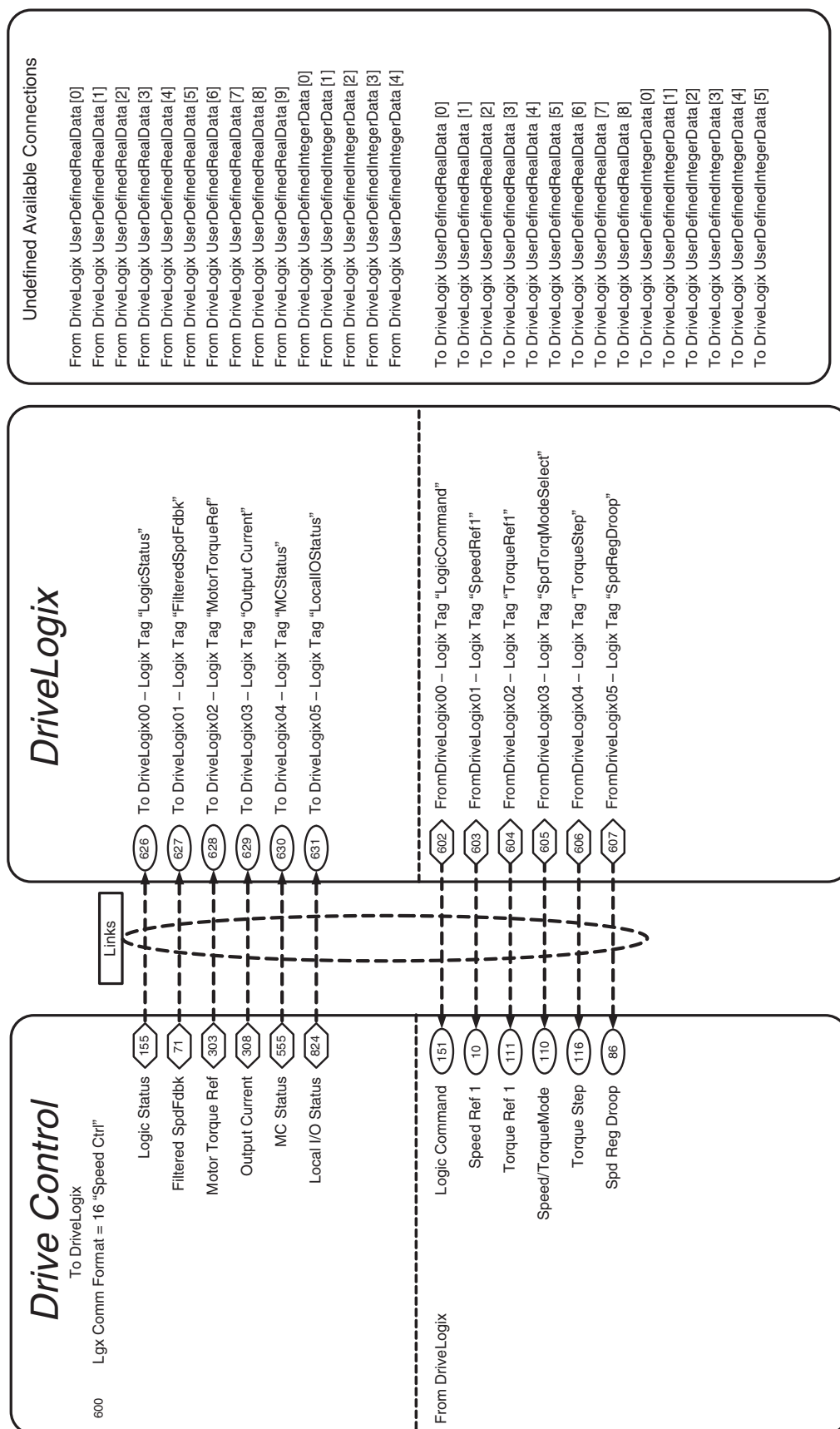
Diagnostic Tools



Inverter Overload IT

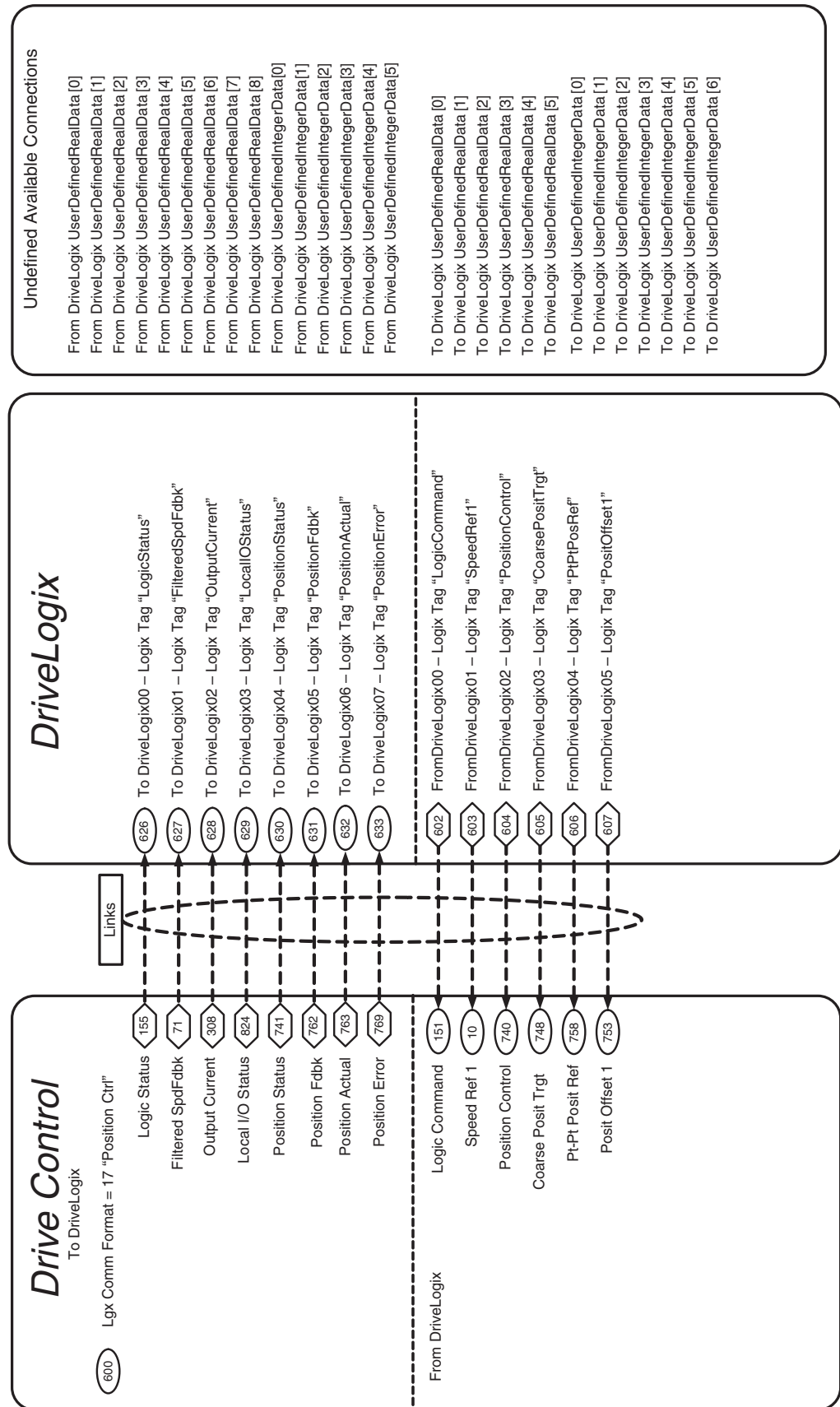


PowerFlex 700S Phase 2 DriveLogix-Speed Control

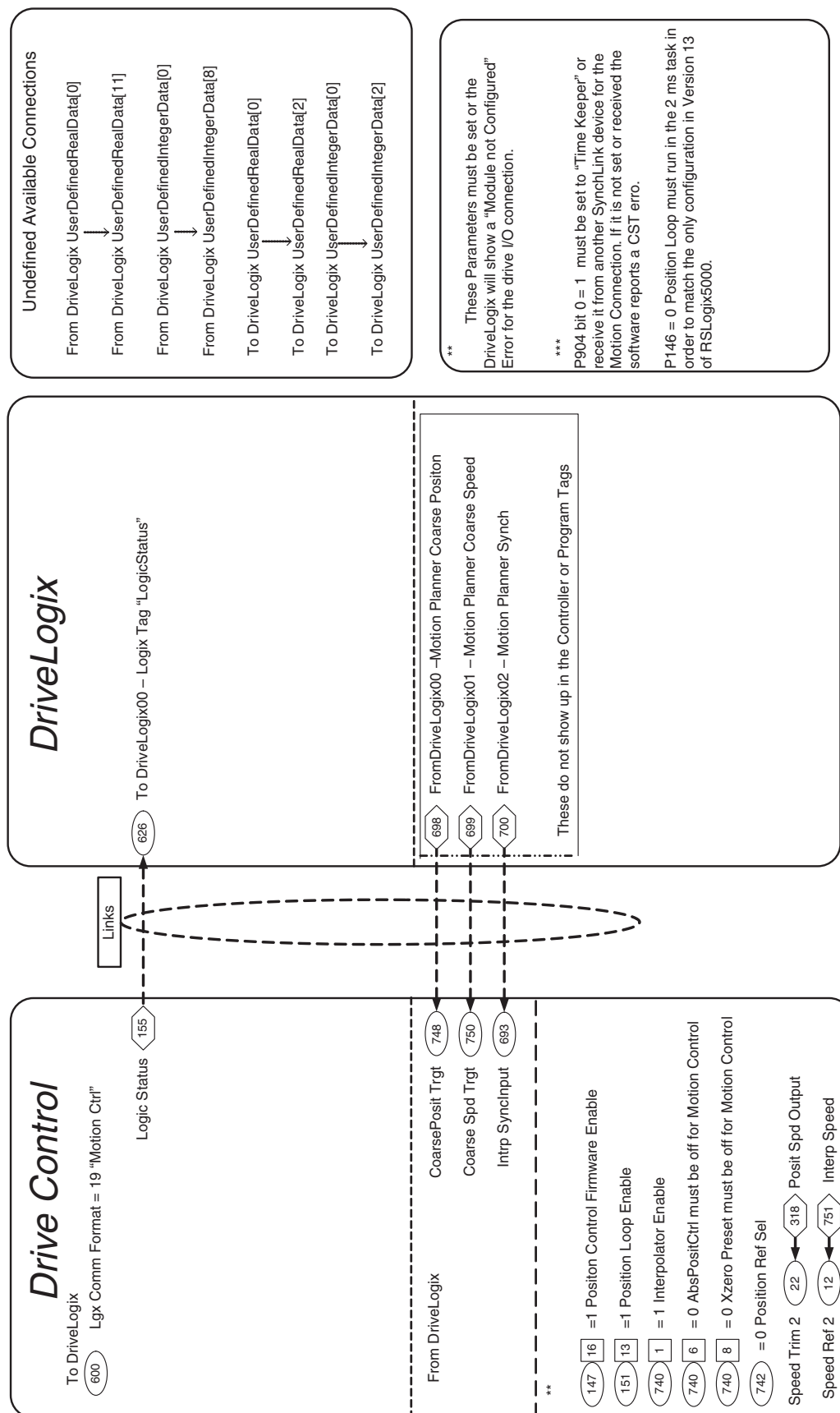


PowerFlex 700S Phase 2

DriveLogix-Position Control



PowerFlex 700S Phase 2 DriveLogix-Motion Control



PowerFlex 700S Permanent Magnet Motor Specifications

Compatible Permanent Magnet Motors

The following table contains a list of specifications for the permanent magnet motors compatible with PowerFlex 700S drives. Note that you must have a high resolution Stegmann or Heidenhain encoder or compatible resolver.

Table 9 - Motor Name Plate and Rating Specifications

Parameter No.	1	2	3	4	5	7			
Model Number	Motor NP Volts (line to line V rms)	Motor NP FLA (A rms)	Motor NP Frequency (Hz)	Motor NP RPM (oper. rpm)	Motor NP Power (KW)	Motor Poles	Current peak (A rms)	System Cont. Stall Torque (N•m)	Motor Max RPM (rpm)
MPM-A1151M	240	4.2	333.3	5000	0.90	8	21.6	2.18	6000
MPM-A1152F	240	5.9	266.7	4000	1.40	8	31.7	4.74	5000
MPM-A1302F	240	7.4	266.7	4000	1.65	8	35.6	5.99	4500
MPM-A1304F	240	8.1	233.3	3500	2.20	8	34.2	9.30	4000
MPM-A1651F	240	14.5	200.0	3000	2.50	8	52.2	10.70	5000
MPM-A1652F	240	18.1	233.3	3500	4.03	8	73.0	13.50	4000
MPM-A1653F	240	23.2	200.0	3000	5.10	8	84.3	18.60	4000
MPM-A2152F	240	33.7	133.3	2000	5.20	8	89.0	27.00	4000
MPM-A2153F	240	32.8	133.3	2000	5.80	8	85.2	34.00	4600
MPM-A2154C	240	24.8	116.7	1750	6.50	8	89.8	55.00	2000
MPM-A2154E	240	29.6	133.3	2000	7.00	8	90.7	44.00	2650
MPM-B1151F	480	1.5	266.7	4000	0.75	8	7.0	2.18	5000
MPM-B1151T	480	3.1	333.3	5000	0.90	8	14.5	2.18	7000
MPM-B1152C	480	2.3	166.7	2500	1.20	8	8.8	2.18	3000
MPM-B1152F	480	2.9	266.7	4000	1.40	8	15.5	4.74	5200
MPM-B1152T	480	5.2	266.7	4000	1.40	8	26.8	4.74	7000
MPM-B1153E	480	2.7	200.0	3000	1.40	8	15.3	6.55	3500
MPM-B1153F	480	3.2	266.7	4000	1.45	8	22.6	6.55	5500
MPM-B1153T	480	5.5	266.7	4000	1.45	8	39.2	6.55	7000
MPM-B1302F	480	3.4	266.7	4000	1.65	8	15.6	5.99	4500
MPM-B1302M	480	5.0	266.7	4000	1.65	8	22.6	5.99	6000
MPM-B1302T	480	6.6	266.7	4000	1.65	8	30.7	5.99	7000
MPM-B1304C	480	3.4	183.3	2750	2.00	8	15.8	10.20	2750
MPM-B1304E	480	4.1	166.7	2500	2.20	8	24.2	10.20	4000
MPM-B1304M	480	7.3	233.3	3500	2.20	8	42.9	10.20	6000
MPM-B1651C	480	4.7	200.0	3000	2.50	8	20.6	10.70	3500
MPM-B1651F	480	8.2	200.0	3000	2.50	8	36.0	10.70	5000
MPM-B1651M	480	10.9	200.0	3000	2.50	8	40.2	10.70	5000
MPM-B1652C	480	7.0	166.7	2500	3.80	8	23.8	16.00	2500
MPM-B1652E	480	8.0	233.3	3500	4.30	8	42.8	19.40	3500
MPM-B1652F	480	11.0	233.3	3500	4.30	8	59.5	19.40	4500
MPM-B1653C	480	10.5	133.3	2000	4.60	8	41.9	26.80	2500
MPM-B1653E	480	10.2	200.0	3000	5.10	8	51.6	26.80	3500
MPM-B1653F	480	13.2	200.0	3000	5.10	8	66.7	26.80	4000

Parameter No.	1	2	3	4	5	7			
Model Number	Motor NP Volts (line to line V rms)	Motor NP FLA (A rms)	Motor NP Frequency (Hz)	Motor NP RPM (oper. rpm)	Motor NP Power (KW)	Motor Poles	Current peak (A rms)	System Cont. Stall Torque (N•m)	Motor Max RPM (rpm)
MPM-B2152C	480	12.3	133.3	2000	5.60	8	39.2	36.70	2500
MPM-B2152F	480	18.7	166.7	2500	5.90	8	69.3	33.00	4500
MPM-B2152M	480	21.0	166.7	2500	5.90	8	54.0	30.00	5000
MPM-B2153B	480	12.7	116.7	1750	6.80	8	42.4	48.00	2000
MPM-B2153E	480	19.3	133.3	2000	7.20	8	69.7	48.00	3000
MPM-B2153F	480	22.1	133.3	2000	7.20	8	69.6	45.00	3800
MPM-B2154B	480	13.9	116.7	1750	6.90	8	69.3	62.80	2000
MPM-B2154E	480	18.3	133.3	2000	7.50	8	69.5	56.00	3000
MPM-B2154F	480	19.8	133.3	2000	7.50	8	59.3	56.00	3300
MPL-A310P	230	3.4	294.0	4410	0.73	8	9.9,	1.58	5000
MPL-A310F	230	2.1	185.3	2780	0.46	8	6.6	1.58	3000
MPL-A320P	230	6.4	271.3	4070	1.30	8	20.9	3.05	5000
MPL-A320H	230	4.6	208.7	3130	1.00	8	13.6	3.05	3500
MPL-A330P	230	8.5	280.7	4210	1.80	8	26.9	4.08	5000
MPL-A420P	230	9.0	268.7	4030	2.00	8	32.5	4.74	5000
MPL-A430P	230	11.9	234.0	3510	2.20	8	47.4	5.99	5000
MPL-A430H	230	8.6	184.7	2770	1.80	8	31.8	6.21	3500
MPL-A4520P	230	12.4	234.0	3510	2.20	8	35.4	5.99	5000
MPL-A4520K	230	10.6	223.3	3350	2.10	8	30.4	5.99	4000
MPL-A4530F	230	9.5	144.7	2170	1.90	8	29.7	8.36	2800
MPL-A4530K	230	14.4	196.0	2940	2.50	8	43.8	8.13	4000
MPL-A4540C	230	6.6	93.3	1400	1.50	8	20.5	10.20	1500
MPL-A4540F	230	13.0	162.0	2430	2.60	8	38.2	10.20	3000
MPL-A520K	230	16.3	208.0	3120	3.50	8	46.0	10.70	4000
MPL-A540K ⁽¹⁾	230	29.3	180.7	2710	5.50	8	84.9	19.40	4000
MPL-A560F	230	29.3	125.3	1880	5.50	8	84.9	27.90	3000
MPL-B310P	460	1.7	310.0	4650	0.77	8	3.0	1.58	5000
MPL-B320P	460	3.2	313.3	4700	1.50	8	5.0	3.05	5000
MPL-B330P	460	4.3	274.0	4110	1.80	8	7.0	4.18	5000
MPL-B420P ⁽¹⁾	460	4.5	255.3	3830	1.90	8	9.2	4.74	5000
MPL-B430P ⁽¹⁾	460	6.5	214.0	3210	2.20	8	12.0	6.55	5000
MPL-B4520P	460	6.0	236.7	3550	2.10	8	17.0	5.65	5000
MPL-B4530F	460	5.0	162.0	2430	2.10	8	13.4	8.25	3000
MPL-B4530K	460	7.8	200.7	3010	2.60	8	19.1	8.25	4000
MPL-B4540F	460	6.4	162.0	2430	2.60	8	16.3	10.20	3000
MPL-B4560F	460	8.3	144.7	2170	3.20	8	25.5	14.10	3000
MPL-B520K ⁽¹⁾	460	8.1	208.0	3120	3.50	8	23.3	10.70	4000
MPL-B540K ⁽¹⁾	460	14.5	177.3	2660	5.40	8	42.4	19.40	4000
MPL-B560F	460	14.5	130.7	1960	5.50	8	42.4	26.80	3000
MPL-B580F	460	18.4	132.7	1990	7.10	8	66.5	34.00	3000
MPL-B580J ⁽¹⁾	460	22.6	148.0	2220	7.90	8	66.5	34.00	3800
MPL-B640F	460	22.7	106.0	1590	6.11	8	46.0	36.70	3000
MPL-B660F	460	27.2	81.3	1220	6.15	8	67.9	48.00	3000
MPL-B680D	460	24.0	94.0	1410	9.30	8	66.5	62.80	2000
MPL-B680F	460	33.9	79.3	1190	7.50	8	67.9	60.00	3000
MPL-B860D ⁽¹⁾	460	33.6	96.0	1440	12.50	8	67.5	83.10	2000
MPL-B880C ⁽¹⁾	460	33.6	72.7	1090	12.60	8	69.0	110.00	1500
MPL-B880D ⁽¹⁾	460	40.3	86.7	1300	15.00	8	113.2	110.00	2000

Parameter No.	1	2	3	4	5	7			
Model Number	Motor NP Volts (line to line V rms)	Motor NP FLA (A rms)	Motor NP Frequency (Hz)	Motor NP RPM (oper. rpm)	Motor NP Power (KW)	Motor Poles	Current peak (A rms)	System Cont. Stall Torque (N•m)	Motor Max RPM (rpm)
MPL-B960B ⁽¹⁾	460	29.7	62.0	930	12.70	8	63.6	130.00	1200
MPL-B960C ⁽¹⁾	460	38.9	76.0	1140	14.80	8	88.4	124.30	1500
MPL-B960D ⁽¹⁾	460	50.2	76.7	1150	15.00	8	102.5	124.30	2000
MPL-B980B ⁽¹⁾	460	31.8	59.3	890	15.02	8	70.7	162.70	1000
MPL-B980C ⁽¹⁾	460	48.2	67.3	1010	16.80	8	99.0	158.20	1500
MPL-B980D ⁽¹⁾	460	63.6	74.7	1120	18.60	8	141.4	158.20	2000
MPG-A004-031	230	1.8	222.7	3340	0.21	8	4.0	0.60	6000
MPG-A010-031	230	2.1	189.3	2840	0.36	8	6.0	1.21	4875
MPG-A010-091	230	0.9	295.3	4430	0.19	8	2.3	0.41	5900
MPG-A025-031	230	9.9	181.0	1810	0.88	12	19.8	4.65	5200
MPG-A025-091	230	3.0	168.0	1680	0.52	12	8.5	2.95	5625
MPG-A050-031	230	24.7	120.0	1200	1.50	12	53.0	11.90	2510
MPG-A050-091	230	5.0	275.0	2750	0.75	12	15.6	2.60	3775
MPG-A110-031	230	20.2	122.0	1220	2.20	12	53.0	17.20	2875
MPG-A110-091	230	17.0	184.0	1840	1.60	12	33.2	8.30	3500
MPG-B010-031	460	1.6	162.7	2440	0.34	8	4.4	1.33	6450
MPG-B010-091	460	0.7	357.3	5360	0.23	8	1.5	0.41	6450
MPG-B025-031	460	4.0	219.0	2190	0.92	12	11.3	4.02	4838
MPG-B025-091	460	1.9	175.0	1750	0.54	12	5.2	2.95	5900
MPG-B050-031	460	16.3	92.0	920	1.20	12	32.5	12.40	2510
MPG-B050-091	460	3.4	290.0	2900	0.79	12	9.9	2.60	4560
MPG-B110-031	460	12.9	112.0	1120	2.00	12	31.1	17.00	2420
MPG-B110-091	460	10.6	184.0	1840	1.60	12	20.5	8.30	3500
1326AB-B410G	460	2.5	118.0	3540	1.00	4	7.4	2.70	5000
1326AB-B410J	460	3.5	165.0	4950	1.40	4	10.4	2.70	7250
1326AB-B420E	460	2.8	70.0	2100	1.10	4	8.5	5.00	3000
1326AB-B420H	460	5.5	137.3	4120	2.20	4	15.6	5.10	6000
1326AB-B430E	460	3.9	67.7	2030	1.40	4	11.7	6.60	3000
1326AB-B430G	460	5.6	114.3	3430	2.30	4	16.8	6.40	5000
1326AB-B515E	460	6.1	70.3	2110	2.30	4	18.3	10.40	3000
1326AB-B515G	460	9.5	88.7	2660	2.90	4	28.5	10.40	5000
1326AB-B520E	460	6.7	71.0	2130	2.90	4	20.1	13.00	3000
1326AB-B520F	460	8.8	70.3	2110	2.90	4	26.4	13.10	3500
1326AB-B530E	460	9.5	74.3	2230	4.20	4	28.5	18.00	3000
1326AB-B720E	460	17.5	70.0	2100	6.80	4	52.5	30.90	3500
1326AB-B720F	460	27.5	117.0	3510	11.70	4	66.5	31.80	5000
1326AB-B730E	460	22.8	78.3	2350	9.60	4	66.5	39.00	3350
1326AB-B740C	460	20.9	52.3	1570	8.70	4	62.7	53.00	2200
1326AB-B740E	460	32.0	79.7	2390	12.70	4	66.5	50.80	3400
1326AS-B310H	460	0.8	204.5	4090	0.30	6	2.4	0.70	6200
1326AS-B330H	460	2.1	204.5	4090	0.90	6	6.0	2.10	6500
1326AS-B420G	460	2.6	179.0	3580	1.20	6	7.8	3.20	5250
1326AS-B440G	460	5.4	149.0	2980	2.00	6	16.2	6.40	5250
1326AS-B460F	460	6.2	148.5	2970	2.80	6	18.6	9.00	4300
1326AS-B630F	460	7.8	142.7	2140	2.40	8	18.5	10.70	4500
1326AS-B660E	460	11.8	100.7	1510	3.40	8	29.8	21.50	3000

Parameter No.	1	2	3	4	5	7			
Model Number	Motor NP Volts (line to line V rms)	Motor NP FLA (A rms)	Motor NP Frequency (Hz)	Motor NP RPM (oper. rpm)	Motor NP Power (KW)	Motor Poles	Current peak (A rms)	System Cont. Stall Torque (N•m)	Motor Max RPM (rpm)
1326AS-B690E	460	19.0	87.3	1310	5.00	8	41.3	36.40	3000
1326AS-B840E	460	21.2	79.3	1190	4.70	8	39.5	37.60	3000
1326AS-B860C	460	17.6	77.3	1160	6.00	8	44.4	49.30	2000
1326AH-B330F	460	2.1	0.0	3000	0.75	-	9.0	-	3000
1326AH-B440F	460	3.3	0.0	2500	1.22	-	13.8	-	2500
1326AH-B540F	460	11.1	0.0	2500	2.60	-	47.2	-	2500
3050R-7	390	66.0	50.0	500	30.00	12	132.0	-	500
11050R-7	390	218.0	50.0	500	110.00	12	436.0	-	500

- (1) Due to low inertia and low electrical time constant characteristics, it is recommended that the system inertia be at least 0.02 seconds when using this motor for constant velocity applications.

ATEX Approved PowerFlex 700S, Phase II Drives in Group II Category (2) Applications with ATEX Approved Motors

General Information

This document provides information on operation of an ATEX approved drive and ATEX approved motor. The motor is located in a defined hazardous environment, while the drive is not. A protective system is required to stop current flow to the motor when an over temperature condition has been sensed in the motor. When sensed, the drive will go into a stop condition. To restart the drive, the over temperature condition must be resolved, followed by a valid start command to the drive. The PowerFlex 700S Phase II drive must have the DriveGuard® Safe-Off with Second Encoder option board installed for ATEX applications. Consult the option board User Manual for installation instructions if necessary.

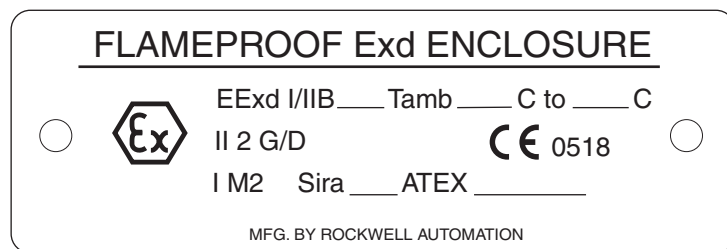
The drive is manufactured under the guidelines of the ATEX directive 94/9/EC. The Drives are in Group II Category (2) Applications with ATEX Approved Motors. Certification of the drive for the ATEX group and category on its nameplate requires installation, operation, and maintenance according to this document and to the requirements found in the User Manual and appropriate Motor Instruction Manual(s).



ATTENTION: Operation of this ATEX certified drive with an ATEX certified motor that is located in a hazardous environment requires additional installation, operation, and maintenance procedures beyond those stated in the standard User Manual. Equipment damage and/or personal injury may result if all additional instructions in this document are not observed.

Motor Requirements

- The motor must be manufactured under the guidelines of the ATEX directive 94/9/EC. It must be installed, operated, and maintained per the motor manufacturer supplied instructions.
- Only motors with nameplates marked for use on an inverter power source, and labeled for specific hazardous areas, may be used in hazardous areas on inverter (variable frequency) power.
- When the motor is indicated for ATEX Group II Category 2 for use in gas environments (Category 2G) the motor must be of flameproof construction, EEx d (according to EN50018) or Ex d (according to EN60079-1 or IEC60079-1). Group II motors are marked with a temperature or a temperature code.
- When the motor is indicated for ATEX Group II Category 2 for use in dust environments (Category 2D) the motor must be protected by an enclosure (according to EN50281-1-1 or according to IEC61241-1: Ex tD). Group II motors are marked with a temperature.
- The motor over temperature signal supplied to the drive must be a normally closed contact (open during over temperature condition) compatible with the digital (logic) input circuitry of the drive. If multiple sensors are required in the motor, the connection at the drive must be the resultant of all required contacts wired in series.
- Refer to all product markings for additional cautions that may apply.
- Typical motor markings are contained on a motor certification nameplate similar to the sample below.

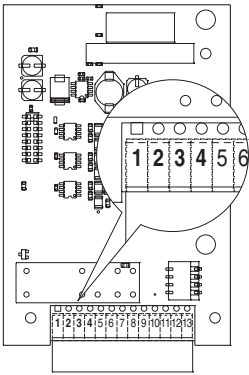


Drive Wiring

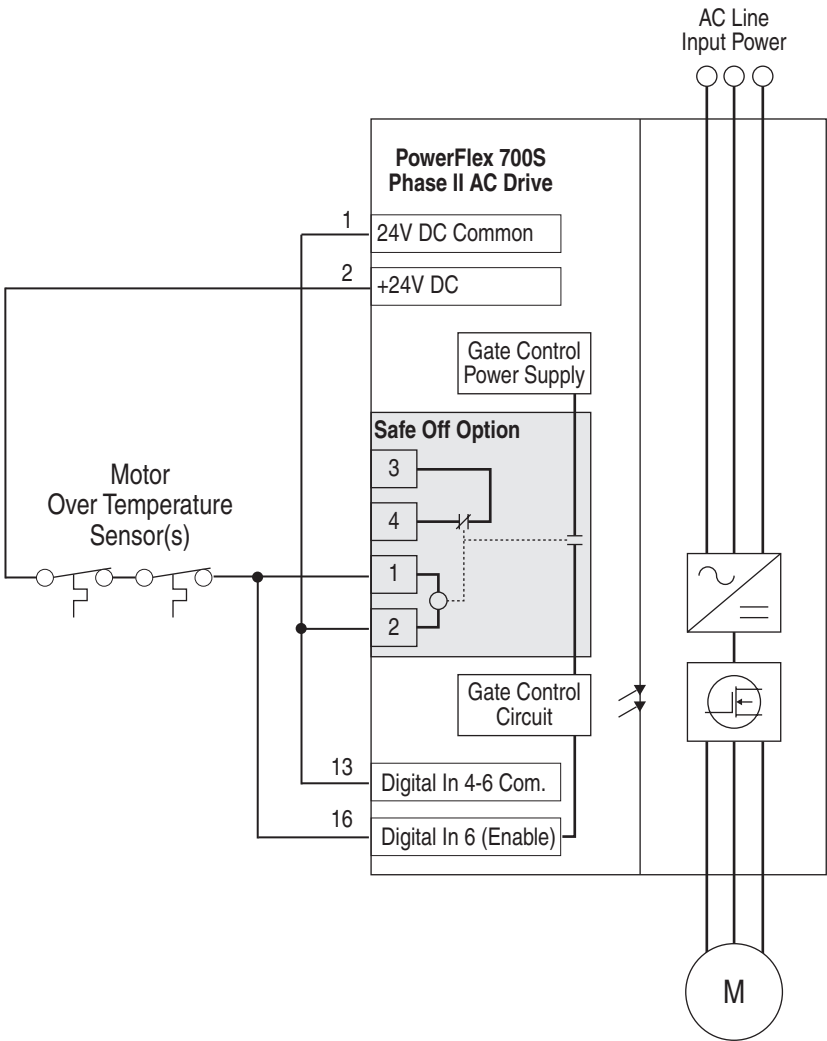
IMPORTANT ATEX certification of this drive requires that two separate inputs be configured to monitor a normally closed over temperature contact (or multiple contacts wired in series) presented to the drive from the motor.

The first input must energize “Digital Input6/Hardware Enable” on the drive control board (TB2, terminal 16). The second input must energize the relay coil on the DriveGuard® Safe-Off with Second Encoder option board (terminals 1 & 2 on the board). This option board must be installed in the drive for ATEX applications. It is offered with a 24V DC coil only. Both input signals are wired with respect to the drive's digital input common when using a control board with 24V I/O. Motor supplied contacts must have ratings compatible with the input circuit ratings and applied voltage level of the drive.

Safe-Off Terminal Descriptions

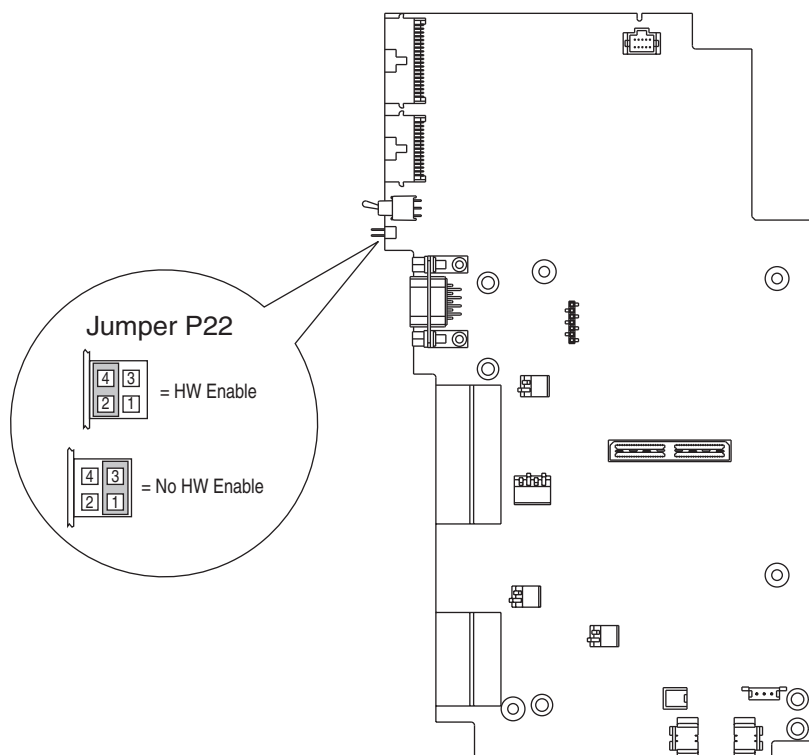
	No.	Signal	Description
	1	+24V DC	Connections for power to energize coil. 33.3 mA typical, 55 mA maximum.
	2	24V Common	
	3	Monitor - N.C.	Normally closed contacts for monitoring relay status. Maximum Resistive Load: 250V AC / 30V DC / 50 VA / 60 Watts Maximum Inductive Load: 250V AC / 30V DC / 25 VA / 30 Watts
	4	Common - N.C.	

Wiring Example



Drive Hardware Configuration

Digital Input 6 must be configured as a Hardware Enable. Ensure that Jumper P22 on the Main Control Board is set to HW Enable (Pins 2 and 4).`



Operation Verification

At regular intervals during the life of the machine check the protective system for proper operation. Both channels shall be verified using the table below. How frequently the protective system is checked is dependent on the safety analysis of the machine section controlled by the drive.

Protective System Status	Drive In Safe State	Drive In Safe State	Drive In Safe State	Drive Able To Run
Channel Operation				
Safe-Off Option Terminals 1 & 2	No Power Applied	Power Applied	No Power Applied	Power Applied
PowerFlex 700S Phase II Enable Input	No Power Applied	No Power Applied	Power Applied	Power Applied
Description For Verification				
Safe-Off Option Monitor Contact Terminals 3 & 4	Closed	Open	Closed	Open
PowerFlex 700S Phase II Drive Inhibits Param. 156, Bits 1 & 16	Bit 16 = 1 Bit 1 = 1	Bit 16 = 0 Bit 1 = 1	Bit 16 = 1 Bit 1 = 0	Bit 16 = 0 Bit 1 = 0

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If you experience an anomaly within the first 24 hours of installation, review the information that is contained in this manual. You can contact Customer Support for initial help in getting your product up and running.

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