Technical Data

Allen-Bradley

PowerFlex® 7000 Medium Voltage AC Drive

Classic Control – Firmware 6.xxx

Important User Information

Read this document and the documents listed in the Additional Resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

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

Labels may also be on or inside the equipment to provide specific precautions.

	**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.
	**ARC FLASH HAZARD:** Labels may be on or inside the equipment, for example, a motor control center, to alert people to potential Arc Flash. Arc Flash will cause severe injury or death. Wear proper Personal Protective Equipment (PPE). Follow ALL Regulatory requirements for safe work practices and for Personal Protective Equipment (PPE).

Acronyms and Abbreviations used in this Manual

Acronym/ Abbreviation	Description
A/D	Analog/Digital
AC	Alternating Current
Accel	Acceleration
ADC	Analog to Digital Converter
Anlg	Analog
Aux	Auxiliary
Avg	Average
BW	bandwidth
Cap	Capacitor
Ch	Channel
Chn	Channel
CIB	Customer Interface Board
Cmd	Command
CT	Current Transformer
Ctctr	Contactor
Cur	Current
DAC	Digital to Analog Converter
DAN	Drive Area Network
DC	Direct Current
DCB	Drive Control Board
DD	Dimensional Drawings
Decel	Deceleration
DIM	Drive Identity Module
Dly	Delay
DO	Drive Output
DPI	Drive Peripheral Interface
DrvIn	Drive Input
ED	Electrical Drawings
Enc	Encoder
ESP	Electrical Submersible Pump
Fbk	Feedback
Flt	Fault
Fltr	Filter
FO	Fiber-Optic
FOB	Fiber-Optic Interface Board
FOI	Fiber-Optic Interface
FPGA	Field-Programmable Gate Array
Freq	Frequency
GND	Ground
Gnrl	General
HCS	Hall Effect Current Sensor
Hi	High
HP	Horse Power
HW	Hardware
I	Current
ID	Identification
Init	Initialize
Inv	Inverter
IO	Input/Output
Isoltn Sw	Isolation Switch
L	Inductance
L	Line

Acronym/ Abbreviation	Description
LED	Light-emitting diode
Lo	Low
LR	Line Reactor
LV	Low Voltage
M	Machine
Magntz	Magnetizing
Max	Maximum
Min	Minimum
Mstr	Master
MTR	Motor
NVRAM	Non-Volatile Random Access Memory
OC	Overcurrent
OL	Overload
OP	Output
OT	Over-temperature
OV	Overvoltage
PD	Parallel Drive
PFC	Power Factor Correction
PLC	Programmable Logic Control
PLL	Phase Lock Loop
PS	Power Supply
Pu	Per Unit
PWM	Pulse-Width Modulation
Rect	Rectifier
Rot'n	Rotation
SCB	Signal Conditioning Board
SCR	Silicon-Controlled Rectifier
SGCT	Symmetrical-Gate Commutated Thyristor
Slv	Slave
Spd	Speed
SPGD	Self-Powered Gate Driver
SW	Software
Sync	Synchronous
Tach	Tachometer
TFB	Temperature Feedback Board
Trp	Trip
Trq	Torque
TSN	Transient Suppression Network
UB	Unbalance
UPS	Uninterrupted Power Supply
USART	Universal Synchronous/Asynchronous Transmitter/Receiver
V	Volt
VSB	Volt Sensing Board
Wrn	Warning
Xfer	Transfer
XIO	External Input

Parameter Descriptions

Parameter Descriptions

PowerFlex 7000/7000L Medium Voltage AC Drive

DATABASE REVISION # 6.xxx

IMPORTANT: Please read the following information on overall parameter configuration.

This document provides detailed description of the parameters used in drive control. The parameters are arranged into functional groups. Each description begins with the full name of the parameter, followed by the name displayed on the operator interface. The linear number of the parameter is given followed by the minimum and maximum values showing the position of the decimal point and the units if applicable. Next is the generic value that is assigned when a parameter initialization is performed. The access level at which the parameter can be first seen is given. The access levels are Monitor, Basic, Advanced, Service and Rockwell. At the Monitor access level, no change to the parameters are allowed. If the parameter is first seen at a certain level (with the exception of Monitor) and it is a Read/Write type, it can be modified at the same or a higher level. Read Only parameters are operational variables that change with different operating conditions. Finally, there is a short functional description of the parameter.

Interpreting Bit-Encoded Parameters

Most bit-encoded parameters follow a basic format. A one (1) in an associated bit represents a true or active condition. A zero (0) in an associated bit represents a false or inactive condition.

The methodology is best illustrated using an example:

Isolation Switch Configuration [Isol Sw Config]

Linear number:	192
Default value:	0000 0000 0000 0000
Access Level:	Basic
Read/Write:	Read/Write when Stopped

This parameter specifies the setup of the isolation switches and the contactors in the drive system. Most standard systems will include a Drive Input Isolation Switch and Contactor, and as systems get more complex they will include Drive Output, Bypass, and System Output Isolation Switches and Contactors. ‘1’ in the corresponding bit location indicates that the isolation switch or contactor is installed, and ‘0’ in the corresponding bit location indicates that the isolation switch or contactor is not installed. The following is the description of the individual bits:

DrvIn Iso Sw	Drive Input Isolation Switch
DrvOp Iso Sw	Drive Output Isolation Switch
DrvBp Iso Sw	Drive Bypass Isolation Switch
OP Iso Sw	System Output Isolation Switch
Not Used	–
Not Used	–
Not Used	–
Not Used	–
DrvIn Ctctr	Drive Input Contactor
DrvOp Ctctr	Drive Output Contactor
Op Ctctr	System Output Contactor

The description in the manual will always be structured in the same way. The top description (in this case, **DrvIn Iso Sw**) is always the least-significant bit, or right-most bit. As you move down the list of descriptions, you move to the left on the bit-encoded word. Any unused bits in the middle of a word will be identified, but unused bits in the middle of a word will have no description. This is why a 16-bit word may only have a few descriptions. The rest are reserved for future expansion.

When a bit-encoded parameter is viewed in its associated group, it is actually displayed as a hexadecimal number. The right-most four bits represent the right-most hexadecimal digit. Each subsequent group of 4 represents the next hex digit.

The following table illustrates the relationship:

Bit	15 14 13 12	11 10 9 8	7 6 5 4	3 2 1 0
Value	8 4 2 1	8 4 2 1	8 4 2 1	8 4 2 1
Example	0 1 0 1	1 1 1 0	1 0 1 1	0 0 1 1
	0 + 4 + 0 + 1	8 + 4 + 2 + 0	8 + 0 + 2 + 1	0 + 0 + 2 + 1
Sums	5	E	B	3

When you display a specific bit-encoded parameter, or choose to modify a bit-encoded parameter, it will be displayed in fit format, with an individual description of each bit. When modifying a parameter, highlighting the bit with the cursor keys will automatically pop up the description on screen.

Conversion Table

Binary	Hex	Binary	Hex	Binary	Hex	Binary	Hex
0000	0	0100	4	1000	8	1100	C
0001	1	0101	5	1001	9	1101	D
0010	2	0110	6	1010	A	1110	E
0011	3	0111	7	1011	B	1111	F

Feedback Parameters

Rectifier Heatsink Temperature °C [RHeatsink Temp C]
Linear Number: 254
Minimum Value: -40.0 C
Maximum Value: 100.0 C
Access Level: Monitor
Read/Write: Read Only

This parameter specifies the rectifier heatsink temperature in degrees Celsius.

Rectifier Heatsink Temperature °F [RHeatsink Temp F]
Linear Number: 255
Minimum Value: -40.0 F
Maximum Value: 212.0 F
Access Level: Monitor
Read/Write: Read Only

This parameter specifies the rectifier heatsink temperature in degrees Fahrenheit.

Inverter Heatsink Temperature °C [IHeatsink Temp C]
Linear Number: 252
Minimum Value: -40.0 C
Maximum Value: 100.0 C
Access Level: Monitor
Read/Write: Read Only

This parameter specifies the inverter heatsink temperature in degrees Celsius.

Inverter Heatsink Temperature °F [IHeatsink Temp F]
Linear Number: 253
Minimum Value: -40.0 F
Maximum Value: 212.0 F
Access Level: Monitor
Read/Write: Read Only

This parameter specifies the inverter heatsink temperature in degrees Fahrenheit.

Ground Fault Current [Gnd flt Current]
Linear Number: 367
Minimum Value: 0.0 A
Maximum Value: 100.0 A
Access Level: Monitor
Read/Write: Read Only

This parameter is the measured ground fault current from the optional ground fault current transformer. The ground fault CT is used only for drives without an input isolation transformer, and measures the zero sequence input current of the drive (not the motor current).

Line Current [I Line]
Linear Number: 500
Minimum Value: 0 A
Maximum Value: 999 A
Access Level: Monitor
Read/Write: Read Only

This parameter specifies the input line current value in Amperes.

Line Voltage [V Line]
Linear Number: 324
Minimum Value: 0 volt
Maximum Value: 8000 volt
Access Level: Monitor
Read/Write: Read Only

This parameter specifies the input line voltage in Volts. This is a heavily filtered value and should not be used for trending or troubleshooting. Use V Master, V Slave 1 and V Slave 2 for this purpose.

Line Frequency [Line Frequency]
Linear Number: 657
Minimum Value: -100.0 Hz
Maximum Value: 100.0 Hz
Access Level: Monitor
Read/Write: Read Only

This parameter specifies the frequency of the line voltage. This parameter is a filtered version of Master Bridge Line Frequency (334) in the Current Control group.

Drive Not Ready Status Word 1 [Drive Not Ready1]
Linear Number: 262
Access Level: Monitor
Read/Write: Read Only

This parameter specifies the status of several different conditions that can cause a Drive Not Ready indication. '1' in the corresponding bit location indicates that condition exists, and '0' indicates that the condition does not exist. The following is descriptions of the individual bits:

Bit	Enum Text	Description
0	Class1 Fault	A Class 1 Fault Exists
1	Class2 Fault	A Class 2 Fault Exists
2	No Line Sync	The drive failed to synchronize with the Line Frequency
3	No Phase Chk	Phasing Check on the Rectifier has not passed
4	Inp Clse Dly	Indicates Input Close Delay timer is still active (for PWM rectifiers)
5	DI Iso open	The Drive Input Isolation Switch is Open when it should not be
6	DO Iso open	The Drive Output Isolation Switch is Open when it should not be
7	BP Iso open	The Drive Bypass Isolation Switch is Open when it should not be
8	OP Iso open	The System Output Isolation Switch is Open when it should not be
9	DI Iso clsed	The Drive Input Isolation Switch is Closed when it should not be
10	DO Iso clsed	The Drive Output Isolation Switch is Closed when it should not be
11	BP Iso clsed	The Drive Bypass Isolation Switch is Closed when it should not be
12	OP Iso clsed	The System Output Isolation Switch is Closed when it should not be
13	Drv Xfer Dly	One minute delay timer after synchronization has not expired (for de-sync)
14	Line Loss	Loss of MV Voltage
15	Ctrl Pwr Lss	Loss of LV Control Power

Drive Not Ready Status Word 2 [Drive Not Ready2]
Linear Number: 699
Access Level: Monitor
Read/Write: Read Only

This parameter specifies the status of several different conditions that can cause a Drive Not Ready indication. '1' in the corresponding bit location indicates that condition exists, and '0' indicates that the condition does not exist. The following is descriptions of the individual bits:

Bit	Enum Text	Description
0	No DO/OP Ctr	In Open Circuit Mode, the drive will not start if the drive does not have an DO/OP contactor installed. Fault must be masked for this situation.
1	DPI Flash	The DPI Adapter is being flashed remotely
2	Unused	
3	Unused	
4	Unused	
5	Unused	
6	Unused	
7	Unused	
8	Unused	
9	Unused	
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

V Neutral Line [V Neutral Line]
Linear Number: 589
Minimum Value: -2.000 pu
Maximum Value: 2.000 pu
Access Level: Basic
Read/Write: Read Only

This parameter specifies the pu measured line side neutral to ground voltage.

V Neutral Motor [V Neutral Motor]
Linear Number: 347
Minimum Value: -2.000 pu
Maximum Value: 2.000 pu
Access Level: Basic
Read/Write: Read Only

This parameter specifies the pu measured motor neutral to ground voltage.

Air Filter Block [Air Filter Block]
Linear Number: 567
Minimum Value: 0.0 %
Maximum Value: 100.0 %
Access Level: Basic
Read/Write: Read Only

This parameter is a measure of the air filter blockage. A drop in pressure sensor value is an indication of reduced airflow in the drive due to a blocked air filter. The drive continuously monitors this value and will trip before the air filter gets fully blocked.

Air Filter Allow [Air Filter Allow]
Linear Number: 568
Minimum Value: 0.0 %
Maximum Value: 100.0 %
Access Level: Basic
Read/Write: Read Only

This parameter specifies the % allowable filter blockage before the drive will trip. A decreasing value is an indication of air filter blocking.

Parameter Error [Parameter Error]
Linear Number: 597
Minimum Value: 0
Maximum Value: 65535
Access Level: Basic
Read/Write: Read Only

This parameter specifies the linear number of the parameter in the database has a value that's out of range. Only one parameter linear number can be specified at a time in the parameter error. This means that more than one parameter can have an error but only one of them is specified.

Alpha Line [Alpha Line]
Linear Number: 327
Minimum Value: 0.0 deg
Maximum Value: 180.0 deg
Access Level: Advanced
Read/Write: Read Only

This parameter specifies the line converter firing angle, which is equal to the inverse cosine of the dc voltage reference. It is in the range 0 to 90 degrees for motoring and 90 to 180 degrees for generating.

Alpha Machine [Alpha Machine]
Linear Number: 328
Minimum Value: -360.0 deg
Maximum Value: 360.0 deg
Access Level: Advanced
Read/Write: Read Only

This parameter specifies the machine converter firing angle.

Status Flags [Status Flags]
Linear Number: 569
Access Level: Service
Read/Write: Read Only

This parameter specifies the drive status flags. Each bit has 2 states, and that allows the parameter to represent 16 conditions. They are as shown below:

0	1
Not Ready	Ready
Not Running	Running
Forward Rotation	Reverse Rotation
No Faults	Faulted
No Warnings	Warnings
Fans Off	Fans On
DI Cntctr Open	DI Cntctr Closed
DO Cntctr Open	DO Cntctr Closed

Status Flag 2 [Status Flag2]
Linear Number: 238
Access Level: Service
Read/Write: Read Only

This parameter specifies the drive status flag and is used by drive control to make logical decisions. A one represents an indicated status. The following states are displayed:

Bit	Enum Text	Description
0	Jog	Drive is in Jog mode.
1	Local	Drive is in Local Control Mode.
2	Class1 Fault	Drive has tripped on a Class 1 Fault.
3	Class2 Fault	Drive has tripped on a Class 2 Fault.
4	Run Req	Drive start command has been issued.
5	Restart Req	Drive will restart automatically following a line loss.
6	Gating Enble	Line and machine converter devices are gating.
7	Drive Ini	Drive Initialization routines have been completed.
8	Gate Test	Drive is in Gate Test mode.
9	Shrt Cct Tst	Drive is in DC Current Test mode.
10	System Tst	Drive is in System Test mode.
11	Open Cct Tst	Drive is in Open Circuit Test mode.
12	Param Loaded	Drive Parameters have been loaded.
13	Inv Ini	Inverter side initialization routines have been completed.
14	Rect Ini	Rectifier side initialization routines have been completed.
15	Fan Optn On	Fan 2 has been switched on.

Control Flags Line – Word 1 [Control Flags L]
Linear Number: 264
Access Level: Service
Read/Write: Read Only

This word indicates various status bits within the rectifier control. The word can be used in trending to assist in determining what the rectifier control is doing in a normal or abnormal situation. A 1 in a location indicates that condition is active, and a 0 indicates the condition is inactive.

Bit	Enum Text	Description
0	PLL Locked	Rectifier Synchronized with the Line Voltage
1	PLL Enabled	Input Voltage sufficient to attempt to lock onto the Line Voltage
2	Continuous	DC Current Level is continuous
3	Rvs Sequence	The incoming line is not UVW
4	Slave Swap	The Slave 1 and Slave 2 Bridges are Swapped (18P only)
5	Phasing OK	The drive has no phasing problems
6	MV Isolated	There is no MV on the input to the rectifier
7	Xfmr Stdy St	Transformer Ringing has stopped and voltage is at a steady level
8	Rec Init	Boot-Up on Rectifier is complete
9	Line Loss	There is a line loss condition present
10	Slv1 Rvs Rot	The Slave 1 bridge is not UVW
11	Slv2 Rvs Rot	The Slave 2 bridge is not UVW
12	Diag Done	The rectifier has completed it's diagnostics
13	Tuning Done	Rectifier Tuning is complete
14	Gate Freeze	The rectifier is in Gate Freeze Mode
15	Phsng Chk IP	Phasing check in Process

Control Flags Line – Word 2 [Control Flags L2]
Linear Number: 160
Access Level: Service
Read/Write: Read Only

This word indicates various status bits within the rectifier control. The word can be used in trending to assist in determining what the rectifier control is doing in a normal or abnormal situation. A 1 in a location indicates that condition is active, and a 0 indicates the condition is inactive.

Bit	Enum Text	Description
0	Rec C1 Flt	A Rectifier Class 1 fault exists
1	Rec C2 Flt	A Rectifier Class 2 fault exists
2	Rec Warning	A Rectifier Warning exists
3	Phsng Chk Dn	The drive has completed the input phasing checks
4	No PLL Error	There is no problems with the PLL Lock
5	Rec Dvc Flt	The drive has a rectifier device fault
6	Free Whl Ln	The rectifier is in Free-Wheel mode (caused by Transients)
7	Free Whl Mtr	The inverter is in Free-Wheel mode (caused by Transients)
8	Dvc Short	The Rectifier has detected a shorted device
9	Bus Tran	There is a transient detected on the input of the drive
10	FrWhl L R AC	Handshake for Freewheel Mode
11	GCT Pwr OK L	Rectifier SGCTs have Power
12	RTD Lmt Rqst	Drive is requested to go into Retard Limit
13	No Temp Fdbk	The rectifier temperature feedback is missing
14	L OL Pending	Drive Overload is Timing
15	Rec Crit Flt	Rectifier Critical Fault is Active

Control Flags Line – Word 3 [Control Flags L3]
Linear Number: 368
Access Level: Service
Read/Write: Read Only

This word indicates various status bits within the rectifier control. The word can be used in trending to assist in determining what the rectifier control is doing in a normal or abnormal situation. A 1 in a location indicates that condition is active, and a 0 indicates the condition is inactive.

Bit	Enum Text	Description
0	No Flt Delay	Fault displayed without delay
1	Act Dschrge	Active discharge
2	Lnk Dschrge	DC Link Discharge
3	Lnk PDschrge	Link PDscharge
4	Gate Enbl Rq	Gate enable request
5	SCR Gate Pwr	SCR Gate Power
6	Inp Open Req	Input Open Request
7	Gnd OC Disbl	Ground OC disabled
8	Bus Tran En	Bus Transient enabled
9	Dvc LL Short	Device Line to Line short
10	Dvc CMVE Sc	Device CMVE SC
11	InpLockOut	Due to Line Over Current condition, the input contactor is being prevented from closing (18P only)
12	BusTrInpOpen	Due to Bus Transient, input contactor is opened
13	Unused	
14	Unused	
15	Unused	

Control Flags Motor – Word 1 [Control Flags M]
Linear Number: 265
Access Level: Service
Read/Write: Read Only

This word indicates various status bits within the inverter control. The word can be used in trending to assist in determining what the rectifier control is doing in a normal or abnormal situation. A 1 in a location indicates that condition is active, and a 0 indicates the condition is inactive.

Bit	Enum Text	Description
0	PLL Locked	Inverter control is Locked on Motor Frequency
1	SpdRamp Enbl	Ramp Start Delay has expired, and speed ramp has started
2	Rvs Sequence	The output voltage is not UVW
3	Close Loop	The drive is operating in closed-loop mode
4	FlxFbk Enbl	The drive is operating with Flux Feedback from the motor above Flux Minimum
5	FreqFbk Enbl	Once Flux Feedback is enabled, the drive actually detects a good flux signal
6	Gate Freeze	The inverter is in Gate Freeze mode
7	Scurve Prof	The drive is running with an S-Curve Speed Profile
8	Step Prof	The drive is running with a Ramp Speed Profile
9	TrqRamp Enbl	The drive is operating between Torque Command 0 and 1
10	Coast Stp Md	Not Currently Active
11	Inv Dvc Flt	There is a device fault on the inverter
12	TachFbk Optn	The drive has a Tachometer/Encoder feedback signal available
13	TachFbk Enbl	The drive is running with Tachometer/Encoder Feedback enabled
14	Torque Lmt	The drive is in Torque Limit
15	Open Loop	The motor is operating in Open-Loop mode

Control Flags Motor – Word 2 [Control Flags M2]
Linear Number: 642
Access Level: Service
Read/Write: Read Only

This word indicates various status bits within the inverter control. The word can be used in trending to assist in determining what the rectifier control is doing in a normal or abnormal situation. A 1 in a location indicates that condition is active, and a 0 indicates the condition is inactive.

Bit	Enum Text	Description
0	Intrnl Start	Internal Start Command from Setup Wizard
1	Intrnl Stop	Internal Stop Command from Setup Wizard
2	Autotne Cncl	Autotune has been aborted for some reason
3	Discharging	The Motor Capacitors are discharging (more than 50V)
4	Dvc Short	The Inverter has detected a shorted SGCT
5	CtrlPwr Loss	The drive is in a Control Power Loss mode
6	AC Fail	The drive has detected the AC Fail signal
7	DQ Filter	DQ Filter for Flux Feedback is present in Hardware
8	FrWhl M R AC	Handshake for Freewheel Mode
9	GCT Pwr OK M	Inverter SGCTs have Power
10	LV Loss CIB	Signal from CIB that AC Fail and DC Fail are active (UPS Installed)
11	M Diag Done	The inverter diagnostics have been completed
12	No Temp Fdbk	The inverter temperature feedback is missing
13	Dig Flx Enbl	Digital Flux enabled
14	M OL Pending	Motor Overload is Timing
15	Ramp Rvsing	Ramp reversing enabled

Control Flags Motor – Word 3 [Control Flags M3]
Linear Number: 446
Access Level: Service
Read/Write: Read Only

This word indicates various status bits within the inverter control. The word can be used in trending to assist in determining what the rectifier control is doing in a normal or abnormal situation. A 1 in a location indicates that condition is active, and a 0 indicates the condition is inactive.

Bit	Enum Text	Description
0	CtrlPwr LsAk	Control Power Loss Acknowledged
1	Restrt Exprd	AutoRestart Delay timer has expired
2	Force Scurve	Force S Curve
3	Desynch Enbl	Desynch Enabled
4	UWV Seq	UWV Sequence enabled
5	IsoTx1 Fn On	Isolation Transformer 1 Fan is ON
6	IsoTx2 Fn On	Isolation Transformer 2 Fan is ON
7	ESP Drive	ESP Drive selected
8	Restrt Intvl	Auto Restart Interval time enabled
9	Cool Fans On	Drive Cooling Fans ON
10	Critical Flt	Critical fault
11	CapabilityOn	The motor current limited to the safe level of drive thermal protection
12	Flying Strt1	Flying Start 1
13	Flying Strt2	Flyig Start 2
14	Flying Start	Flying Start
15	unused 15	-

Neutral Resistor Overload Value [R Neutral OL]
Linear Number: 682
Minimum Value: 0.00
Maximum Value: 1.00
Access Level: Service
Read/Write: Read Only

This parameter specifies the normalized value of the Neutral Resistor overload, and is active only for Direct-to-Drive PF7000 drives. The drive is faulted when the value reaches 1.0.

Harmonic Voltage [Harmonic Voltage]
Linear Number: 683
Minimum Value: 0.000 pu
Maximum Value: 32.767 pu
Access Level: Service
Read/Write: Read Only

This parameter represents the calculated value of the Harmonic Voltage on the input to the rectifier. The firmware looks at the rectifier voltage and will measure the 5^{th} harmonic voltage only. This value is normalized to the rated line voltage, and will trip when the harmonic voltage exceeds the setting in the parameter Harmonic OV Trip for the time specified in Harmonic OV Delay

Pressure Value [Pressure Val]
Linear Number: 447
Minimum Value: -1.0 V
Maximum Value: 10.0 V
Access Level: Advanced
Read/Write: Read Only

This parameter indicates the air pressure sensor value in volts. It is an indication of the airflow in the drive and is used for drive protection. A drop in pressure value indicates either a blocked air filter or a loss of cooling fan operation, and is measured at a lower voltage.

Pressure Value for Transformer Air Flow [Pres Val Tx]
Linear Number: 653
Minimum Value: -10.0 V
Maximum Value: 10.0 V
Access Level: Advanced
Read/Write: Read Only

This parameter specifies the voltage from the air pressure sensor in the Isolation Transformer section of the A-Frame drive. This parameter operates with the same functionality of the air pressure sensor across the power cages. THIS PARAMETER IS ACTIVE FOR A-FRAME DRIVES ONLY.

Drive Overload Value [Drive O/L Val]
Linear Number: 551
Minimum Value: 0.00
Maximum Value: 1.00
Access Level: Service
Read/Write: Read Only

This parameter specifies the normalized value of drive overload. A warning is issued when the value is equal to the parameter Drive O/L wrn and the drive is tripped when the value reaches 1.0.

Motor Overload Value [Motor O/L Val]
Linear Number: 550
Minimum Value: 0.00
Maximum Value: 1.00
Access Level: Service
Read/Write: Read Only

This parameter specifies the normalized value of motor overload. A warning is issued when the value is equal to the parameter Motor O/L Wrn and the drive is tripped when the value reaches 1.0.

Master Voltage Unbalance Value [Mstr Volt UB Val]
Linear Number: 610
Minimum Value: -1.00
Maximum Value: 1.00
Access Level: Service
Read/Write: Read Only

This parameter specifies the value of voltage unbalance between the 3 phases on the master bridge. A fault is issued when the value exceeds the parameter Line Voltage Unbalance Trip for the duration set in Line Voltage Unbalance Delay.

Slave 1 Voltage Unbalance Value [Slv1 Volt UB Val]
Linear Number: 611
Minimum Value: -1.00
Maximum Value: 1.00
Access Level: Service
Read/Write: Read Only

This parameter specifies the value of voltage unbalance between the 3 phases on the slave 1 bridge. A fault is issued when the value exceeds the parameter Line Voltage Unbalance Trip for the duration set in Line Voltage Unbalance Delay.

Slave 2 Voltage Unbalance Value [Slv2 Volt UB Val]
Linear Number: 612
Minimum Value: -1.00
Maximum Value: 1.00
Access Level: Service
Read/Write: Read Only

This parameter specifies the value of voltage unbalance between the 3 phases on the slave 2 bridge. A fault is issued when the value exceeds the parameter Line Voltage Unbalance Trip for the duration set in Line Voltage Unbalance Delay.

Master Current Unbalance Value [Mstr Cur UB Val]
Linear Number: 613
Minimum Value: -1.00
Maximum Value: 1.00
Access Level: Service
Read/Write: Read Only

This parameter specifies the value of current unbalance between the 3 phases on the master bridge. A fault is issued when the value exceeds the parameter Line Current Unbalance Trip for the duration set in Line Current Unbalance Delay.

Slave 1 Current Unbalance Value [Slv1 Cur UB Val]
Linear Number: 614
Minimum Value: -1.00
Maximum Value: 1.00
Access Level: Service
Read/Write: Read Only

This parameter specifies the value of current unbalance between the 3 phases on the slave 1 bridge. A fault is issued when the value exceeds the parameter Line Current Unbalance Trip for the duration set in Line Current Unbalance Delay.

Slave 2 Current Unbalance Value [Slv2 Cur UB Val]
Linear Number: 615
Minimum Value: -1.00
Maximum Value: 1.00
Access Level: Service
Read/Write: Read Only

This parameter specifies the value of current unbalance between the 3 phases on the slave 2 bridge. A fault is issued when the value exceeds the parameter Line Current Unbalance Trip for the duration set in Line Current Unbalance Delay.

Flux Unbalance Value [Flux UB Val]
Linear Number: 619
Minimum Value: 0.00
Maximum Value: 1.00
Access Level: Service
Read/Write: Read Only

This parameter specifies the value of flux unbalance between the 3 phases on the drive output, measured with the voltage sensing board. A fault is issued when the value exceeds the parameter Motor Flux Unbalance Trip for the duration set in Motor Flux Unbalance Delay.

Motor Current Unbalance Value [Mtr I UB Val]
Linear Number: 263
Minimum Value: 0.00
Maximum Value: 1.00
Access Level: Service
Read/Write: Read Only

This parameter specifies the value of current unbalance between the 3 phases on the drive output measured at the LEMs. A fault is issued when the value exceeds the parameter Motor Current Unbalance Trip for the duration set in Motor Current Unbalance Delay.

Bypass Voltage Unbalance Value [Byp Volt UB Val]
Linear Number: 428
Minimum Value: 0.00
Maximum Value: 1.00
Access Level: Service
Read/Write: Read Only

This parameter specifies the value of voltage unbalance between the 3 phases on the top of the bypass contactor for Synchronous Transfer applications. A fault is issued when the value exceeds the parameter Master Voltage Unbalance Trip for the duration set in Master Voltage Unbalance Delay.

Motor ADC/DAC Fault 1 [Motor AD/DA Flt1]
Linear Number: 96
Access Level: Service
Read/Write: Read Only

This parameter specifies the power-up Diagnostic results on the Motor Drive Control Board. If the control finds a problem with the analog signals into the board, or the board itself, a Mtr-ADC_DAC Flt will appear, and this parameter will help indicate which signals are causing the problem. The action should be to investigate all the connections and feedback paths related to that signal before changing the SCB-M or DCB–M. This is a self-test fault that will only occur at initial power-up.

Bit	Enum Text	Description
0	Fbc Offst Hi	Fbc Motor Flux Offset High
1	Fca Offst Hi	Fca Motor Flux Offset High
2	Ia3 Offst Hi	Phase A Motor Current Feedback
3	Ic3 Offst Hi	Phase C Motor Current Feedback
4	Vab1 OffstHi	Phase AB Motor Voltage Feedback (L-L)
5	Vbc1 OffstHi	Phase BC Motor Voltage Feedback (L-L)
6	Vca1 OffstHi	Phase A Motor Current Feedback
7	Vng Offst Hi	Phase C Motor Current Feedback
8	Vabxfr Offst	Phase AB Motor Voltage Feedback (L-L)
9	Vbcxfr Offst	Phase BC Motor Voltage Feedback (L-L)
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

Line ADC/DAC Fault 1 [Line AD/DA Flt1]
Linear Number: 473
Access Level: Service
Read/Write: Read Only

This parameter specifies the power-up Diagnostic results on the Line Drive Control Board. If the control finds a problem with the analog signals into the board, or the board itself, a Lne-ADC_DAC Flt will appear, and this parameter will help indicate which signals are causing the problem. The action should be to investigate all the connections and feedback paths related to that signal before changing the SCB-L or DCB-L. This is a self-test fault that will only occur at initial power-up.

Bit	Enum Text	Description
0	Ia1 Offst Hi	Master Bridge Phase A Current
1	Ic1 Offst Hi	Master Bridge Phase C Current
2	Ia2 Offst Hi	Slave 1 Bridge Phase A Current
3	Ic2 Offst Hi	Slave 1 Bridge Phase C Current
4	Ia3 Offst Hi	Slave 2 Bridge Phase A Current
5	Ic3 Offst Hi	Slave 2 Bridge Phase C Current
6	Idc Offst Hi	DC Current Feedback
7	Vab1 OffstHi	Master Bridge Phase AB Voltage (L-L)
8	Vbc1 OffstHi	Master Bridge Phase BC Voltage (L-L)
9	Vca1 OffstHi	Master Bridge Phase CA Voltage (L-L)
10	Vab2 OffstHi	Slave 1 Bridge Phase AB Voltage (L-L)
11	Vbc2 OffstHi	Slave 1 Bridge Phase BC Voltage (L-L)
12	Vca2 OffstHi	Slave 1 Bridge Phase CA Voltage (L-L)
13	Vab3 OffstHi	Slave 2 Bridge Phase AB Voltage (L-L)
14	Vbc3 OffstHi	Slave 2 Bridge Phase BC Voltage (L-L)
15	Vca3 OffstHi	Slave 2 Bridge Phase CA Voltage (L-L)

Line ADC/DAC Fault 2 [Line AD/DA Flt2]
Linear Number: 474
Access Level: Service
Read/Write: Read Only

This parameter specifies the power-up Diagnostic results on the Line Drive Control Board. If the control finds a problem with the analog signals into the board, or the board itself, a Lne-ADC_DAC Flt will appear, and this parameter will help indicate which signals are causing the problem. The action should be to investigate all the connections and feedback paths related to that signal before changing the SCB-L or DCB-L. This is a self-test fault that will only occur at initial power-up.

Bit	Enum Text	Description
0	Ignd OffstHi	Ground current Offset High
1	Vn Offst Hi	Line Neutral voltage Vn offset High
2	Vng Offst Hi	Line Neutral to ground voltage Vng offset High
3	Idc Gain Lo	Idc Gain Low
4	Idc Gain Hi	Idc gain High
5	Idc Offst Lo	Idc offset Low
6	Idc Offst Hi	Idc Offset High
7	Vdc Offst Hi	Line Vdc Offset High
8	Icm Offst Hi	Common mode Current offset High
9	Unused	
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

Cur Sens FltCode [Cur Sens FltCode]
Linear Number: 764
Access Level: Service
Read/Write: Read Only

This feature is active in all inverter short circuit test modes, and open-loop mode. It compares the measured dc current feedback with the estimated dc current feedback from the line current (capacitor compensation done on PWMR) and creates the fault *Current Sensor* if there is a large difference (*Line HECS/CT* bit in fault code). This protects the drive when starting (in test modes) with the DC HECS unplugged, or backwards. The phase sequence of the CT feedback (forward/reverse) is compared with the phase sequence of the voltage feedback and a *Current Sensor* fault is generated if they are different (*CT Phs Seqn* bit in fault code). When dc current is flowing, the drive compares the firing angle with the angle of the estimated rectifier current and generates a *Current Sensor* fault if there is a large difference (*CT Phs/Alpha* bit in fault code). On PWMR drives, when not gating (in short circuit and open-loop test modes) the drive compares the measured capacitor current and expected capacitor current and generates a *Current Sensor* fault if there is a large difference (*Cap/CT Error* bit in fault code). In open-loop test mode, the drive compares the motor current feedback to the dc current feedback and generates a *Current Sensor* fault if there is a large difference (*Motor HECS* bit in fault code). All checks issue the same *Current Sensor* fault, however there is a current sensor fault code variable *Cur Sens FltCode* #764 in *Feedback* that indicates which of the five checks caused the fault.

Bit	Enum Text	Description
0	Line HECS/CT	Line HECS/CT
1	CT Phs Seqn	CT Phase Sequence
2	CT Phs/Alpha	CT Phase Alpha
3	Cap/CT Error	Cap/CT Error
4	Motor HECS	Motor HECS
5	Unused	
6	Unused	
7	Unused	
8	Unused	
9	Unused	
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

Drive Voltage Sensing Board Tap [Drive VSB Tap]
Linear Number: 649
Access Level: Service
Read/Write: Read Only

This parameter specifies the tap setting of all drive Voltage Sensing Boards. Based on the Rated Line Voltage and Rectifier Type parameters, the drive can calculate which tap is used on the VSBs. There are 4 taps labeled A, B, C, and D.

Drive VSB Gain [Drive VSB Gain]
Linear Number: 648
Minimum Value: 0.0 V/V
Maximum Value: 6553.5 V/V
Access Level: Service
Read/Write: Read Only

This parameter represents the voltage divider ratio from the Low Voltage signal level for the Line and Motor voltages on the SCB inputs to the Medium Voltage Levels on the Line and Motor. The voltage measured on the Vxxx_out testpoints on the Signal Conditioning Boards multiplied by this parameter will give you the actual Medium Voltage levels.

Input Power [Input Power]
Linear Number: 753
Minimum Value: -15000 kW
Maximum Value: 15000 kW
Access Level: Service
Read/Write: Read Only

An input power kW meter has been added. This measures the power consumption at the input of the rectifier. Therefore this power measurement does not include the line-reactor or transformer losses. The input power in kW is displayed in the variable *Input Power* #753 in the *Feedback* group.

LineCur Neg Seq [LineCur Neg Seq]
Linear Number: 791
Minimum Value: -200.0 A
Maximum Value: 200.0 A
Access Level: Service
Read/Write: Read Only

This variable displays the Negative Sequence level of line current as an indication of unbalance in the input side of the drive. This variable is used for detection of Line Capacitor Malfunction while drive is in ready mode (not-gating). This variable displays zero while drive is gating (e.g. running).

LineVolt Neg Seq [LineVolt Neg Seq]
Linear Number: 792
Minimum Value: 0.000 pu
Maximum Value: 2.000 pu
Access Level: Service
Read/Write: Read Only

This variable displays the Negative Sequence level of line voltage as an indication of unbalance in the source voltage. This variable is used for compensating of unbalance contributed to the total unbalance in the input side of the drive. This variable shows zero while drive is gating (e.g. running).

Line Cur Unbal [Line Cur Unbal]
Linear Number: 793
Minimum Value: 0.00
Maximum Value: 1.00
Access Level: Service
Read/Write: Read Only

This parameter displays the value of current unbalance measured in the line current. When compared to parameter #613, this value has a faster response.

NeutralFund Volt [NeutralFund Volt]
Linear Number: 794
Minimum Value: 0.00 pu
Maximum Value: 1.00 pu
Access Level: Service
Read/Write: Read Only

This parameter displays the measured fundamental component in the line side neutral voltage. This only applies to drives with PWM rectifier.

Feature Select Parameters

Reference Select [Reference Select]
Linear Number: 7
Default Value: Local
Access Level: Monitor
Read/Write: Read/Write

This parameter selects the control reference source when the selector switch is in Remote setting. The most common usage is a 4-20mA signal from the remote source, which would be Current Loop.

But the Remote Reference source can also be digital. The default setup is that CIB Port 5 is for a DPI adapter, and is assigned as Adapter 5 if you are sending a remote Reference Command through DPI. CIB Port 1 is for a SCANPort adapter, and is assigned as Adapter 1 if you are sending a remote Reference Command through SCANPort.

The ScanPort protocol allows for a splitter, and if a splitter is installed in the drive, you can utilize Adapter 1-6 for different SCANPort modules.

The available options are:

Value	Enum Text	Description
0	Local	This selects the analog speed potentiometer mounted on the front panel
1	Adapter 1	This selects SCANport adapter 1 (Default single SCANPort adapter)
2	Adapter 2	This selects SCANport adapter 2
3	Adapter 3	This selects SCANport adapter 3
4	Adapter 4	This selects SCANport adapter 4
5	Adapter 5	This selects SCANport/DPI adapter 5 (Default DPI adapter)
6	Adapter 6	This selects SCANport adapter 6
7	Remote 0-10v	This selects the remote 0-10v voltage
8	Current Loop	This selects the remote 4-20mA current source signal
9	Preset Spd 1	This selects the value specified in parameter Preset Speed 1
10	Preset Spd 2	This selects the value specified in parameter Preset Speed 2
11	Preset Spd 3	This selects the value specified in parameter Preset Speed 3
12	Jog	This selects the value specified in parameter Preset Jog Speed

Operating Mode [Operating Mode]
Linear Number: 4
Default Value: Normal
Access Level: Monitor
Read/Write: Read/Write when Stopped

This parameter specifies the operating modes of the drive. It is not saved and is set to Normal at power up. If this parameter is changed when the drive is running, the change will not take effect until the drive is stopped. Refer to Chapter 5 – Functional Description in the PowerFlex 7000 User Manual for detailed description of the test modes.

The possible operating modes are:

Value	Enum Text	Description
0	Normal	Normal operating mode
1	Gate Test	Gate Test mode (medium voltage off)
2	DC Current	DC Current test mode
3	System Test	System Test mode (medium voltage off)
4	Open Circuit	Open Circuit test mode (needs DO contactor or disconnected motor)
5	Open Loop	Open Loop test mode

Rectifier Gating Test [Rect Gating Test]
Linear Number: 590
Default Value: Off
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter selects the various rectifier gating test sequences. The drive should be isolated from medium voltage. The following options are available:

* For 6 and 18-pulse drive, ensure that the only two devices are connected to the power harness.
A detailed description is provided in Chapter 5 – Functional Description of the PowerFlex 7000 User Manual.

Value	Enum Text	Description
0	Off	This stops the rectifier gating test sequence.
1	Test Pattern	This parameter applies a pattern that fires the devices sequentially at low frequency
2	Time Pattern	This pattern is used to test series devices in the Rectifier Bridge.
3	Normal Gate	This parameter applies a normal gating pattern to the Rectifier Bridge *.

Inverter Gating Test [Inv Gating Test]
Linear Number: 591
Default Value: Off
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter selects the various inverter gating test sequences. The drive should be isolated from medium voltage. The following options are available:

* The frequency of the gating pattern is controlled by the speed potentiometer if the drive is in Local mode.
A detailed description is provided in Chapter 5 of the PowerFlex 7000 User Manual.

Value	Enum Text	Description
0	Off	This stops the rectifier gating test sequence.
1	Test Pattern	This parameter applies a pattern that fires the devices sequentially at low frequency
2	Time Pattern	This pattern is used to test series devices in the Rectifier Bridge.
3	Normal Gate	This parameter applies a normal gating pattern to the Rectifier Bridge *.

Communication Type [Comm Rate]
Linear Number: 147
Default Value: 125K
Access Level: Basic
Read/Write: Read/Write when Stopped

This parameter specifies the type of external communication protocol that is utilized by the system connected to the drive through the Customer Interface Board (CIB).

On power up, the drive will automatically drop to 125k if 500k is programmed and the drive detects the slower SCANPort protocol is connected. A fault will be annunciated, and it can be reset. If the SCANPort is added while running, it will not work. Changes to communication types will only take place on cycling power. The following list represents the options:

Value	Enum Text	Description
0	125K	SCANPort Communication Protocol or Combination of SCANPort and DPI connected simultaneously
1	500K	DPI Communication Protocol

Type of Units [Type of Units]
Linear Number: 9
Default Value: Imperial
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the type of units used to display data on the Panel View.

Value	Enum Text	Description
0	Imperial	Imperial units
1	SI	SI units

Automatic Restart Delay [Auto Restart Dly]
Linear Number: 3
Default Value: 0.0 sec
Minimum Value: 0.0 sec
Maximum Value: 10.0 sec
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the time interval after a line undervoltage event during which the drive will automatically restart if the line voltage is restored, assuming that the drive was running at the time of the outage. The drive will restart only if control power is maintained during the outage.

Coast Speed [Coast Speed]
Linear Number: 60
Default Value: 2.0 Hz
Minimum Value: 1.0 Hz
Maximum Value: 100.0 Hz
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the speed, at which the drive stops gating and coasts when stopping.

Input Contactor Configuration [Input ContCfg]
Linear Number: 1
Default Value: All Faults
Access Level: Basic
Read/Write: Read/Write when Stopped

This parameter specifies the input contactor configuration, specifically under what conditions the input contactor will be commanded to open by the drive. The possible contactor configurations specified by this parameter are listed below. Critical faults are line overcurrent, DC link overcurrent, and line overvoltage.

Value	Enum Text	Description
0	Not Running	Open when not running
1	All Faults	Open for all faults
2	Critical Flt	Open for critical faults only

Output Contactor Configuration [Output ContCfg]
Linear Number: 5
Default Value: Not Running
Access Level: Basic
Read/Write: Read/Write when Stopped

This parameter specifies the contactor configuration, specifically under what conditions the drive output contactor will be open. The possible contactor configurations specified by this parameter are:

Value	Enum Text	Description
0	Not Running	Open when not running
1	All Faults	Open for all faults

Reverse Enable [Reverse Enable]
Linear Number: 8
Default Value: Disabled
Access Level: Basic
Read/Write: Read/Write

This parameter is used to prevent the drive from running in the reverse direction. When this parameter is set to Disabled, the commanded direction of rotation is always forward. When this parameter is set to Enabled, the drive will then accept a command for Reverse operation. This command could be given digitally in the Logic Command word, or by applying a signal to the Reverse input on the XIO.

Note that disabling this parameter does not prevent reverse rotation if the load overpowers the drive.

Value	Enum Text	Description
0	Disabled	Regardless of Command, Drive will not run in Reverse
1	Enabled	Drive will run in Reverse if Commanded

Current Loop Transmitter [Crrent Loop Xmtr]
Linear Number: 58
Default Value: 4-20 mA
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the setting for the current loop transmitter on the Customer Interface Board. The parameter assigned to this output can be set in the parameter Analog Current Loop. There are 2 options available:

Value	Enum Text	Description
0	4-20 mA	4-20 mA range
1	0-20 mA	0-20 mA range

Current Loop Receiver [Crrent Loop Rcvr]
Linear Number: 59
Default Value: 4-20 mA
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the setting for the current loop receiver on the Customer Interface Board. This is used as the reference input to the drive when parameter Reference Select is set to "Current Loop". There are two options available:

Value	Enum Text	Description
0	4-20 mA	4-20 mA range
1	0-20 mA	0-20 mA range

SpecialFeatures1 [SpecialFeatures1]
Linear Number: 781
Default Value: 0000000000000000
Access Level: Advanced
Read/Write: Read/Write

This parameter is used to enable features in the drive. The options available are:

0	IdcMovingAvg	Moving average of four for DC link current feedback is enabled
1	Capablty Dis	Capability Curve feature is disabled**
2	Heavy Duty	Drive is designed for Heavy Duty Applications**
3	UltraHvyDuty	Drive is designed for Ultra Heavy Duty (>150% overload)**
4	Unused	
5	Unused	
6	Unused	
7	Unused	
8	Unused	
9	Unused	
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

** Contact factory for availability

Load Loss Detection [Load Loss Detect]
Linear Number: 199
Default Value: Disabled
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the response of the drive to a loss of load condition. This parameter is specifically designed for down-hole pump applications, where the user would normally not want to run with a loss of load, as that is not a normal possibility for this type of pump application. The % of load, the operating speed, and the time delay for this fault are all configurable under the Motor Protection group. The following options exist:

Value	Enum Text	Description
0	Disabled	The drive will operate normally in the event of a Load Loss condition
1	Warning	The drive will run with a warning indication in the event of a Load Loss condition
2	Fault	The drive will fault with a Load Loss indication

Input Contactor Open Delay [Input Open Delay]
Linear Number: 10
Default Value: 0.0 min
Minimum Value: 0.0 min
Maximum Value: 60.0 min
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time delay between the drive shutting off, and the input contactor opening, if the contactor is configured to open when the drive is not running. The purpose of this delay is to keep a harmonic filter energized if the drive is stopped for a short time, and not have to wait for the filter capacitors to discharge before restarting.

Input Contactor Close Delay [Input Clse Delay]
Linear Number: 583
Default Value: 0 min
Minimum Value: 0 min
Maximum Value: 60 min
Access Level: Advanced
Read/Write: Read/Write

This parameter is generally applicable to drives with harmonic filters tied to the load side of the input contactor and specifies the time delay that has to elapse between the input contactor opening and then re-closing. The purpose of this delay is to discharge the line filter capacitors before restarting. On PWM drives, the voltage on the line filter capacitor is monitored, and will not allow a reclosure until the voltage drops below 50 V DC. The Operator Interface terminal will display “discharging” during this time.

Redundant Device [Redundant Dvc]
Linear Number: 507
Default Value: None
Access Level: Advanced
Read/Write: Read/Write

This parameter indicates whether the drive has the redundant device option. Redundant device is used to provide an extra device for a specific voltage rating and allow the application to run at full voltage and full power with a shorted device in that leg. This is not to be confused with N-1, which allows the drive to run at a lower voltage and lower power with a shorted device.

There are ratings and drive types that can not be redundant due to the fact that there is no room for extra devices. These are any 6600V drives, and any 18-Pulse rectifiers. This parameter indicates that there is a redundant device, and the drive uses the Series Rectifier and Series Inverter in combination with the Line and Motor Voltages to determine how many redundant devices exist. The options for this parameter are:

Value	Enum Text	Description
0	None	No Redundant Devices
1	Inverter	Inverter has at least 1 Redundant device
2	Rectifer	Rectifier has at least 1 Redundant device
3	Inv & Rect	Both the rectifier and the inverter have at least 1 redundant device

Fault Lock Clear [Fault Lock Clear]
Linear Number: 780
Default Value: 0
Minimum Value: 0
Maximum Value: 65535
Access Level: Service
Read/Write: Read/Write

This parameter is used to enter a special code to reset certain critical faults, which are non-resettable and lockout the drive.

Setup Wizard [Setup Wizard]
Linear Number: 13
Default Value: 0000000000000000
Access Level: Service
Read/Write: Read/Write

This parameter specifies the progress of the Setup Wizard. A one represents the step completed by the setup wizard. Until all the steps are completed, you will always be prompted to continue with the process each time control power is cycled. The following steps are displayed:

Bit	Enum Text	Description
0	path picked	For Internal use only
1	gating test	Perform gating checks on the drive
2	motor data	Enter motor nameplate data
3	features	Enter Feature Select parameters
4	speed ref	Enter Speed Profile parameters
5	analog calib	Calibrated analog system
6	ext faults	Configure the External Faults
7	system test	Perform System Test
8	phasing chk	Performed phasing check for an 18-pulse drive
9	autotuning	Autotune drive and motor parameters
10	idc test	Completed waveform and parameter checks in DC Current Test Mode
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

Fan 1 Run Time [Fan1 Run Time]
Linear Number: 491
Default Value: 30.0 Days
Minimum Value: 0.1 Days
Maximum Value: 60.0 Days
Access Level: Service
Read/Write: Read/Write

This parameter is used for Redundant Fan drives only. The parameter sets the amount of run time that the Fan 1 will be the active fan. When this time expires, the drive will automatically switch to Fan 2, and will run on that fan for the time set in Fan 2 Run Time. It will then cycle back to Fan 1 after Fan 2 Run Time expires. The purpose of this control feature is to get a periodic check of the second, redundant fan. The parameters can also be used to even the run time between the fans.

Fan 2 Run Time [Fan2 Run Time]
Linear Number: 493
Default Value: 0.1 Days
Minimum Value: 0.1 Days
Maximum Value: 60.0 Days
Access Level: Service
Read/Write: Read/Write

This parameter is used for Redundant Fan drives only. The parameter sets the amount of run time that the Fan 2 will be the active fan. When this time expires, the drive will automatically switch to Fan 1, and will run on that fan for the time set in Fan 1 Run Time. It will then cycle back to Fan 2 after Fan 1 Run Time expires. The purpose of this control feature is to get a periodic check of the second, redundant fan. The parameters can also be used to even the run time between the fans.

Extended Trend [Extended Trend]
Linear Number: 702
Default Value: Enabled
Access Level: Service
Read/Write: Read/Write when Stopped

The drive comes with 2 options for the size of the trend buffer. It can be set for 100 samples or 1000 samples. The downside of using the extended samples is that the drive non-critical processes will all be slowed down while using this trending, and there may be too much useless data captured. The trend can be changed while running, but because the memory needs to be reconfigured, the option will not change until control power is cycled. In the interim, the parameter will be set to Pend Disable or Pend Enable to let the user know control power needs to be cycled for the change to take effect. The options for this parameter are as follows:

Value	Enum Text	Description
0	Disabled	100 Samples for Trend Buffer
1	Enabled	1000 Samples for Trend Buffer
2	Pend Disable	Temporary Setting after Disabling Trend
3	Pend Enable	Temporary Setting after Enabling Trend

Forward Phase Rotation [Fwd Phase Rot'n]
Linear Number: 704
Default Value: UVW
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter allows the user to define Forward Phase Rotation for the drive on the output of the inverter. The drive as a standard and default assumes UVW is forward rotation for the load, but if the load runs in the wrong direction, you can define Forward Rotation as UWV and get the correct rotation. This can only be changed while not running. Previously the customer would have to swap two output cables, or change the direction to Reverse in the parameters/XIO and always accept the text REVERSE on the screen even though the load was in the correct direction. The options are:

Value	Enum Text	Description
0	UVW	Output of Inverter is U V W
1	UWV	Output of Inverter is U W V

Flying Restart [Flying Start]
Linear Number: 713
Default Value: UniDirection
Access Level: Service
Read/Write: Read/Write

This parameter will allow the user the opportunity to attempt to capture the load in both directions in a restart condition without tachometer. By setting it to both directions, the drive will attempt to capture the motor in the forward direction, and then in the reverse direction before annunciating a stall. The options for this parameter are:

Value	Enum Text	Description
0	Disabled	Drive Will not attempt a Flying Restart
1	UniDirection	Drive will attempt to pick up the motor in the last-commanded direction only before indicating a stall
2	BiDirection	Drive will attempt to pick up the motor in both directions before indicating a stall

Active Discharge [Active Discharge]
Linear Number: 762
Default Value: Disable
Access Level: Service
Read/Write: Read/Write

An active discharging feature has been added to quickly discharge the input capacitor using the drive/motor. This feature is not available for common-mode choke drives, drives with normally open input or output contactor. Before the discharging, the drive ensures the input contactor is open to prevent the utility from coming back while discharging. The discharging interval takes several cycles. The capacitor energy is moved into the dc-link, and then into the motor. This feature is not to be used without consulting the factory. *Active Discharge* #762 in the *Feature* group.

Value	Enum Text	Description
0	Disable	
1	Enable	

Passcode 0 [Passcode 0]
Linear Number: 11
Minimum Value: 0
Maximum Value: 65535
Access Level: Monitor
Read/Write: Read Only

This parameter specifies the scrambled password for Basic level access. If the password is lost or corrupted, the value of the pass number can be determined from the encoded value by consulting the factory. This parameter is 0 out of the factory.

Passcode 1 [Passcode 1]
Linear Number: 12
Minimum Value: 0
Maximum Value: 65535
Access Level: Monitor
Read/Write: Read Only

This parameter specifies the scrambled password for Advanced level access. If the password is lost or corrupted, the value of the pass number can be determined from the encoded value by consulting the factory. This parameter is 0 out of the factory.

Passcode 2 [Passcode 2]
Linear Number: 38
Minimum Value: 0
Maximum Value: 65535
Access Level: Monitor
Read/Write: Read Only

This parameter specifies the scrambled password for Service level access. If the password is lost or corrupted, the value of the pass number can be determined from the encoded value by consulting the factory.

Passcode 3 [Passcode 3]
Linear Number: 39
Minimum Value: 0
Maximum Value: 65535
Access Level: Monitor
Read/Write: Read Only

This parameter specifies the scrambled password for Rockwell level access. If the password is lost or corrupted, the value of the pass number can be determined from the encoded value by consulting the factory.

Drive Hardware Parameters

Drive Motor Type [Drive Motor Type]
Linear Number: 30
Default Value: Induction
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the type of motor connected to the drive. If this parameter is changed, the control power must be turned off and on before the new value takes effect.

Value	Enum Text	Description
0	Induction	Induction (asynchronous) motor
1	Syn Brush	Synchronous Brush-type motor
2	Syn Bshls AC	Synchronous Brushless Motor with AC exciter
3	Syn Bshls DC	Synchronous Brushless Motor with DC exciter

Drive Model [Drive Model]
Linear Number: 176
Default Value: B Frame
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the PF7000 Model Type, or Drive Type. There are two specific Air-cooled drives: the 'A' Frame and the 'B' Frame. The 'B' Frame is the standard drive, and the 'A' Frame is a smaller version used for limited horsepower applications. There is also a liquid-cooled version of the drive which is the C-Frame. The D-Frame is reserved for future use, and will be used for parallel drive applications.

Value	Enum Text	Description
0	B Frame	'B' Frame PowerFlex 7000 (standard)
1	C Frame	'C' Frame PowerFlex 7000 Liquid-Cooled
2	A Frame	'A' Frame PowerFlex 7000 (limited HP/kW)
3	D Frame	Future Use – Parallel PowerFlex 7000 drives

Isolation Switch/Contactor Configuration [IsoSw/Ctctr Cfg]
Linear Number: 192
Default Value: 0000000000000000
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the setup of the isolation switches and the contactors in the drive system. Most standard systems will include a Drive Input Isolation Switch and Contactor, and as systems get more complex they will include Drive Output, Bypass, and System Output Isolation Switches and Contactors. '1' in the corresponding bit location indicates that the isolation switch or contactor is installed, and '0' in the corresponding bit location indicates that the isolation switch or contactor is not installed. The following table illustrates the expected isolation switch status for all modes of operation:

Status of Isolation Switch	Gate Test	System Test	DC Test	Normal/Open Loop	OC Test
DI Iso SW	Open	Open	Closed	Closed	Closed
DO Iso SW	Open	Open	Closed	Closed	Open
OP Iso SW	Open	Open	Closed	Closed	Open
BP Iso SW	Open (unless on Bypass)	Open	Closed	Closed	Open

The following is the description of the individual bits:

Bit	Enum Text	Description
0	DI Iso Sw	Drive Input Isolation Switch
1	DO Iso Sw	Drive Output Isolation Switch
2	BP Iso Sw	Drive Bypass Isolation Switch
3	OP Iso Sw	System Output Isolation Switch
4	Unused	
5	Unused	
6	Unused	
7	Unused	
8	DI Contactor	Drive Input Contactor
9	DO Contactor	Drive Output Contactor (SCBL Control – Standard)
10	OP Contactor	System Output Contactor (SCBM Control – Optional)
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	DisSyncDrift	Drift angle logic for synchronous transfer is disabled

CT Burden Ground Fault [CT Burden Gndflt]
Linear Number: 158
Default Value: 1000 ohms
Minimum Value: 10 ohms
Maximum Value: 10000 ohms
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the value of the scaling resistor used for the ground fault current feedback. This is a default 1000 ohms resistor integral to the SCB-L.

CT Ratio Ground Fault [CT Ratio Gndflt]
Linear Number: 157
Default Value: 2000
Minimum Value: 10
Maximum Value: 10000
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the ratio of the current transformer used to measure the ground fault (zero sequence) current at the input of the drive.

CT Burden Line [CT Burden Line]
Linear Number: 151
Default Value: 10.0 ohms
Minimum Value: 1.0 ohms
Maximum Value: 100.0 ohms
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the value of the burden resistors for the line current feedback. The default value of burden resistor on the SCBL is 10 ohms. For drives with a higher current rating, 5 ohms may be required. This is accomplished by placing a 10-ohm resistor in parallel across the CT input connector.

CT Ratio Line [CT Ratio Line]
Linear Number: 149
Default Value: 1000
Minimum Value: 10
Maximum Value: 10000
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the ratio of the current transformers used for the line current feedback.

Hall Effect Current Sensor Burden DC Link [HCS Burden DClnk]
Linear Number: 285
Default Value: 50.0 ohms
Minimum Value: 1.0 ohms
Maximum Value: 100.0 ohms
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the value of the scaling resistor for the DC link reactor current feedback. The default value of burden resistor on the SCBL is 50 ohms. For drives with a higher current rating, 25 ohms may be required. This is accomplished by placing a 50-ohm resistor in parallel across the sensor input connector.

Hall Effect Current Sensor Ratio DC Link [HCS Ratio DClnk]
Linear Number: 284
Default Value: 4000
Minimum Value: 10
Maximum Value: 10000
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the ratio of the current transducer used for the DC link reactor current feedback. Previously referred to as a LEM, the sensor is now either an LEM sensor or an ABB sensor.

Hall Effect Current Sensor Burden Motor [HCS Burden Mtr]
Linear Number: 152
Default Value: 50.0 ohms
Minimum Value: 1.0 ohms
Maximum Value: 100.0 ohms
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the value of the scaling resistor for the motor current feedback. The default value of burden resistor on the SCBM is 50 ohms. For drives with a higher current rating, 25 ohms may be required. This is accomplished by placing a 50-ohm resistor in parallel across the sensor input connector.

Hall Effect Current Sensor Ratio Motor [HCS Ratio Mtr]
Linear Number: 150
Default Value: 4000
Minimum Value: 10
Maximum Value: 10000
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the ratio of the current transducers used for the motor current feedback. Previously referred to as a LEM, the sensor is now either an LEM sensor or an ABB sensor.

Line Capacitor Frequency [Line Cap Freq]
Linear Number: 32
Default Value: 60 Hz
Minimum Value: 50 Hz
Maximum Value: 60 Hz
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the rated nameplate frequency of the line filter capacitors. This parameter applies to drives with a PWM rectifier.

Line Capacitor kVAR [Line Cap kvar]
Linear Number: 15
Default Value: 400 kvar
Minimum Value: 1 kvar
Maximum Value: 7500 kvar
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the total three-phase nameplate kVAR of the line filter capacitors. This parameter applies to drives with a PWM rectifier.

Line Capacitor Voltage [Line Cap Volts]
Linear Number: 16
Default Value: 4160 V
Minimum Value: 1000 V
Maximum Value: 10000 V
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the nameplate voltage rating of the line filter capacitors. This parameter applies to drives with a PWM rectifier.

Link Inductance [Link Inductance]
Linear Number: 27
Default Value: 24.0 mH
Minimum Value: 1.0 mH
Maximum Value: 500.0 mH
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the value of the DC Link inductance in mH. This can be obtained from the DC Link reactor nameplate on the dimensional drawings, from the nameplate on the DC Link, or from the duplicate nameplate mounted externally on the DC Link access panel.

This parameter also applies to Direct-to Drive technology drives, and the inductance is obtained from the nameplate of the Common-Mode Choke.

Motor Capacitor Frequency [Mtr Cap Freq]
Linear Number: 28
Default Value: 60 Hz
Minimum Value: 50 Hz
Maximum Value: 90 Hz
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the rated nameplate frequency of the motor filter capacitors. This parameter has been included to eliminate the requirement to recalculate the capacitor kvar when the capacitor rated frequency is not the same as line frequency.

Motor Capacitor kVAR [Mtr Cap kvar]
Linear Number: 20
Default Value: 400 kvar
Minimum Value: 1 kvar
Maximum Value: 7500 kvar
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the total three-phase nameplate kVAR of the motor filter capacitors.

Motor Capacitor Voltage [Mtr Cap Volts]
Linear Number: 21
Default Value: 4160 V
Minimum Value: 1000 V
Maximum Value: 10000 V
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the nameplate voltage rating of the motor filter capacitors.

Rated Drive Amps [Rated Drive Amps]
Linear Number: 19
Default Value: 159 A
Minimum Value: 10 A
Maximum Value: 1750 A
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the maximum continuous RMS current rating of the drive. This should be obtained from the dimensional drawing or the drive nameplate.

Rated Line Frequency [Rated Line Freq]
Linear Number: 17
Default Value: 60 Hz
Minimum Value: 50 Hz
Maximum Value: 60 Hz
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the rated input line frequency of the drive, and must be set to either 50Hz or 60Hz.

Rated Line Voltage [Rated Line Volts]
Linear Number: 18
Default Value: 4160 V
Minimum Value: 1000 V
Maximum Value: 7200 V
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the rated input line voltage. It is used along with the known divider ratios of the voltage sensing boards to calculate the voltage feedback scaling factor.

Rectifier Type [Rectifier Type]
Linear Number: 153
Default Value: 18 SCR
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the power circuit topology of the rectifier used in the drive design. PF7000 currently provides three different rectifier configurations:

Value	Enum Text	Description
0	6 PWM	This parameter selects control for a 6-pulse PWM rectifier.
1	6 SCR	This parameter selects control for a 6-pulse SCR rectifier.
2	18 SCR	This parameter selects control for an 18-pulse SCR rectifier.
3	12 SCR	This parameter selects control for a 12-pulse SCR rectifier (not yet available).

Rectifier Device Rating [Rect Dvc Rating]
Linear Number: 144
Default Value: 350 A
Minimum Value: 0 A
Maximum Value: 3500 A
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the current rating of the power semiconductor device used in the line converter. The 6 SCR and 18 SCR drives use Silicon Controlled Rectifier (SCR) while the 6 PWM drives use Symmetric Gate Commutated Thyristor (SGCT). SCRs are typically 400A or 800A , while SGCT ratings can be 400A or 800A or 1500A, based on the drive rating.

Inverter Device Rating [Inv Dvc Rating]
Linear Number: 143
Default Value: 800 A
Minimum Value: 0 A
Maximum Value: 3500 A
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the current rating of the power semiconductor device (SGCT) used in the machine side converter. SGCT ratings can be 400A or 800A or 1500A, based on the drive rating.

Rect Dvc Voltage [Rect Dvc Voltage]
Linear Number: 769
Default Value: 6500 V
Minimum Value: 0 V
Maximum Value: 10000 V
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter describes the voltage rating of rectifier devices.

NOTE: These should not be changed from the default value of 6500V without consulting the factory.
Inv Dvc Voltage [Inv Dvc Voltage]
Linear Number: 770
Default Value: 6500 V
Minimum Value: 0 V
Maximum Value: 10000 V
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter describes the voltage rating of inverter devices.

NOTE: These should not be changed from the default value of 6500V without consulting the factory

Rectifier Temperature Feedback Channel [RTemp Fbck Chan]
Linear Number: 198
Default Value: 00000001
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the temperature feedback configuration on the line side converter. A one represents an activated channel. The possible selections are:

Bit	Enum Text	Description
0	Channel A	This Bit as a 1 enables the Channel A Temperature Feedback on the Rectifier
1	Channel B	This Bit as a 1 enables the Channel B Temperature Feedback on the Rectifier – Not Installed on any drive as a standard
2	Unused	
3	Unused	
4	Unused	
5	Unused	
6	Unused	
7	Unused	

Inverter Temperature Feedback Channel [ITemp Fbck Chan]
Linear Number: 197
Default Value: 00000001
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the temperature feedback configuration on the machine side converter. A one represents an activated channel. The possible selections are:

Bit	Enum Text	Description
0	Channel A	This Bit as a 1 enables the Channel A Temperature Feedback on the Rectifier
1	Channel B	This Bit as a 1 enables the Channel B Temperature Feedback on the Rectifier – Not Installed on any drive as a standard
2	Unused	
3	Unused	
4	Unused	
5	Unused	
6	Unused	
7	Unused	

Series Rectifier [Series Rect]
Linear Number: 145
Default Value: 1
Minimum Value: 1
Maximum Value: 3
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the number of series power semiconductor devices (SCR or SGCT) in each of the 6 legs(6 Pulse or PWM) or 18 legs (18 Pulse) of the line converter. SGCTs are used in drives with PWM rectifier front end.

Series Inverter [Series Inv]
Linear Number: 146
Default Value: 2
Minimum Value: 1
Maximum Value: 3
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the number of SGCT devices connected in series in each of the 6 legs of the machine converter.

Line Reactor Inductance [Line Reactor]
Linear Number: 624
Default Value: 0.00 mH
Minimum Value: 0.00 mH
Maximum Value: 50.00 mH
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the value of the AC side line reactor in mH. Refer to the nameplate mounted on the reactor, or to the dimensional drawings.

UPS Installed [UPS Installed]
Linear Number: 573
Default Value: No
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies whether a UPS is installed as part of the control power distribution in the drive. If you have an internal UPS programmed, the drive will look for the specific status signals from the UPS to the CIB. For external UPS drives, the functionality based on the UPS option does not change, but the control assumes the status signals are not available.

Value	Enum Text	Description
0	No	No Internal or External UPS
1	Internal	Internal UPS provided with drive
2	External	No Internal UPS, but customer utilizes an External UPS

Number of Power Supplies [Number PwrSup]
Linear Number: 575
Default Value: 1
Minimum Value: 1
Maximum Value: 6
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the total number of AC/DC power supplies installed in the drive. This number includes the number of redundant power supplies.

Redundant Power Supply [Redundant PwrSup]
Linear Number: 572
Default Value: No
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies whether there is a redundant AC/DC power supply installed in the drive.

Value	Enum Text	Description
0	No	Not Installed
1	Yes	Installed

Redundant Fan [Redundant Fan]
Linear Number: 141
Default Value: No
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies whether there is a redundant cooling fan is installed in the drive. When this parameter is set to Yes, the drive automatically turns on Fan 2 in case of a Fan 1 failure. A warning will indicate loss of Fan 1. This parameter also enables the fan cycling functionality, using Fan 1 Run Time and Fan 2 Run Time parameters.

Value	Enum Text	Description
0	No	Not installed
1	Yes	Installed

Neutral Resistor Value [R Neutral]
Linear Number: 680
Default Value: 0.0 ohms
Minimum Value: 0.0 ohms
Maximum Value: 6553.5 ohms
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter defines the resistance of the Neutral Resistor in ohms. This is only available on drives with Direct-to-Drive technology.

Neutral Resistor Rating [R Neutral Rating]
Linear Number: 681
Default Value: 1500 W
Minimum Value: 0 W
Maximum Value: 65535 W
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter defines the wattage Rating of the Neutral Resistor. This parameter is used in the thermal protection of the Neutral Resistor, and is only available on drives with Direct-to-Drive technology.

Output Transformer [Output Transfrmr]
Linear Number: 705
Default Value: No
Access Level: Service
Read/Write: Read/Write when Stopped

NOT ACTIVE IN 5.xxx FIRMWARE. This parameter indicates whether the output of the PowerFlex 7000 drive is connected to a step-up transformer for higher voltage applications. This parameter is required to handle some of the difficulties in starting a drive and motor with a magnetic inductance (transformer) in between.

Value	Enum Text	Description
0	No	Not Installed
1	Yes	Installed

IsoTx Redunt Fan [IsoTx Redunt Fan]
Linear Number: 751
Default Value: No
Access Level: Service
Read/Write: Read/Write when Stopped

Control for Redundant isolation transformer cooling fan for *A Frame* drives has been added in this build. A parameter *IsoTx Redunt Fan* (#751) has been added in *Drive Hardware* group. With the parameter selected as *Yes*, the fans are controlled by output#1(OUT1A-OUT1B) and output#3(OUT3A-OUT3B) on SCBL and the status in brought in through the standard XIO board where *Auxiliary Protection* (IN15A-IN15B) is normally wired in. ***This means that this fault input is not available for A Frame drives with redundant isolation transformer fan.*** The fans are turned on whenever MV is applied to the drive and the fans are cycled by times specified in parameters *Fan1 Run Time* and *Fan2 Run Time* used for redundant main cooling fan control.

Value	Enum Text	Description
0	No	
1	Yes	

Smallest CapkVAR [Smallest CapkVAR]
Linear Number: 795
Default Value: 300 kvar
Minimum Value: 0 kvar
Maximum Value: 1000 kvar
Access Level: Service
Read/Write: Read/Write

This parameter defines the smallest capacitor out of the total capacitor installed at the line side of the drive. For example if the drive has 3 line capacitors at 400, 400 and 300kvar (total of 1100kvar) then set this parameter to 300.

RecHeatsink Type [RecHeatsink Type]**
Linear Number: 796
Default Value: MM Aluminum
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter selects the type of heatsink installed in the rectifier power stack.

0	MM Aluminum	MM Aluminum heatsink
1	Copper	Copper heatsink
2	Webra	Webra Aluminum heatsink
3	Other	Other type of heatsink

** Contact factory for availability

DC Link Type [DC Link Type]**
Linear Number: 797
Default Value: Normal Duty
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the type of the DC Link installed in the drive.

0	Normal Duty	Capable of handing 110% load for 60 seconds every 600 seconds
1	Heavy Duty	Capable of handing 150% load for 60 seconds every 600 seconds
2	PFC Duty	Capable of meeting power factor requirements

** Contact factory for availability

Motor Ratings Parameters

Base Capacitance [Base Capacitance]
Linear Number: 356
Minimum Value: 0 uF
Maximum Value: 1000 uF
Access Level: Service
Read/Write: Read Only

This parameter specifies the base capacitance used in per-unit calculations. This value is derived from Base Voltage and Base Current parameters. The calculation is Base Current / (Base Voltage x 2 x π x Rated Motor Frequency)

Base Current [Base Current]
Linear Number: 354
Minimum Value: 0 A
Maximum Value: 1000 A
Access Level: Service
Read/Write: Read Only

This parameter specifies the base current used in per-unit calculations. It is obtained from the parameter Rated Motor Amps x √2 x Service Factor.

Base Inductance [Base Inductance]
Linear Number: 357
Minimum Value: 0 mH
Maximum Value: 100 mH
Access Level: Service
Read/Write: Read Only

This parameter specifies the base inductance used in per-unit calculations. This value is derived from Base Voltage and Base Current parameters. The calculation is Base Voltage / (Base Current x 2 x π x Rated Motor Frequency).

Base Power [Base Power]
Linear Number: 355
Minimum Value: 0 kVA
Maximum Value: 10000 kVA
Access Level: Service
Read/Write: Read Only

This parameter specifies the base power used in per-unit calculations. This value is derived from the Motor Voltage and the Motor Current parameters, and is √3 x Motor Rated Voltage x Motor Rated Amps x Service Factor.

Base Voltage [Base Voltage]
Linear Number: 353
Minimum Value: 0 V
Maximum Value: 10000 V
Access Level: Service
Read/Write: Read Only

This parameter specifies the base voltage used in per-unit calculations. It is obtained from the parameter Rated Motor Voltage, but is actually the Line–Neutral Peak Base Voltage, and is the Motor Voltage x $\sqrt{(2/3)}$.

Rated Motor Current [Rated Motor Amps]
Linear Number: 23
Default Value: 159 A
Minimum Value: 10 A
Maximum Value: 1500 A
Access Level: Basic
Read/Write: Read/Write when Stopped

This parameter specifies the rated full load current of the motor. This parameter is internally scaled and used as the base value in all the drive pu calculations.

Rated Motor Frequency [Rated Motor Freq]
Linear Number: 29
Default Value: 60 Hz
Minimum Value: 25 Hz
Maximum Value: 90 Hz
Access Level: Basic
Read/Write: Read/Write when Stopped

This parameter specifies the nameplate frequency corresponding to the parameter Rated Motor RPM. It is included for the situation in which the motor rated frequency is not the same as the line rated frequency (e.g. a 60 Hz motor on a 50 Hz supply). The rated frequency of the drive is still the rated line frequency.

Rated Motor Horsepower [Rated Motor HP]
Linear Number: 25
Default Value: 1250 hp
Minimum Value: 40 hp
Maximum Value: 20000 hp
Access Level: Basic
Read/Write: Read/Write when Stopped

This parameter specifies the rated power of the motor. This parameter and the following parameter are actually the same parameter with different scaling. Either parameter may be set and the other will automatically change to the corresponding value in the alternative units.

Rated Motor kW [Rated Motor kW]
Linear Number: 24
Default Value: 933 kW
Minimum Value: 30 kW
Maximum Value: 15000 kW
Access Level: Basic
Read/Write: Read/Write when Stopped

This parameter specifies the rated power of the motor. This parameter and the preceding parameter are actually the same parameter with different scaling. Either parameter may be set and the other will automatically change to the corresponding value in the alternative units.

Rated Motor RPM [Rated Motor RPM]
Linear Number: 26
Default Value: 1192 rpm
Minimum Value: 150 rpm
Maximum Value: 3600 rpm
Access Level: Basic
Read/Write: Read/Write when Stopped

This parameter specifies the rated full load speed of the motor in rpm. It is equal to synchronous speed for a synchronous motor and slightly less than synchronous speed for an induction motor.

Rated Motor Voltage [Rated Motor Volt]
Linear Number: 22
Default Value: 4000 V
Minimum Value: 1000 V
Maximum Value: 8000 V
Access Level: Basic
Read/Write: Read/Write when Stopped

This parameter specifies the rated line to line voltage of the motor. This parameter is internally scaled and used as the base value in all the drive pu calculations. The motor rated voltage should be specified as 2300/4000V and not 2400/4160V to ensure that the line voltage is slightly higher than the motor voltage. Since the motor voltage is limited by the line voltage, increasing the motor rated voltage in an attempt to get more out of the drive will only force the drive to go into field weakening at a lower speed.

Service Factor [Service Factor]
Linear Number: 31
Default Value: 1.00
Minimum Value: 0.75
Maximum Value: 1.25
Access Level: Basic
Read/Write: Read/Write when Stopped

This parameter specifies the service factor of the motor. Because the motor parameters are normalized to the service factor, changing this parameter allows the motor rating to be changed without affecting the drive tuning.

Autotuning Parameters

Autotune Warning [Autotune Warning]
Linear Number: 377
Access Level: Advanced
Read/Write: Read Only

This parameter specifies the warning displayed by the autotuning command. A one indicates a warning has occurred during a test. The following warnings are displayed:

Bit	Enum Text	Description
0	Tuning Abort	Tuning abort
1	Drv TestMode	Drive is in test mode
2	Reg in Limit	Flux Regulator is in limit
3	R Stator Hi	Stator Resistance high
4	AutotuneTLmt	Time limit
5	Inertia High	Inertia high
6	L Comm Low	Commutation Inductance low
7	L Comm High	Commutation Inductance high
8	T DC Lnk Low	DC link time constant low
9	T DC Lnk Hi	DC link time constant high
10	L Leakage Lo	Leakage Inductance low
11	L Leakage Hi	Leakage Inductance high
12	L Magntz Lo	Magnetizing Inductance low
13	L Magntz Hi	Magnetizing Inductance high
14	T Rotor Low	Rotor Time Constant low
15	T Rotor High	Rotor Time Constant high

Autotune Select [Autotune Select]
Linear Number: 209
Default Value: Off
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the autotuning function to be performed. The value of this parameter is set to default after completion of the selected function.

Value	Enum Text	Description
0	Off	Autotuning off
1	Comm Induct	Commutation inductance
2	Current Reg	DC link time constant
3	Stator Rest	Motor stator resistance
4	Leakage Ind	Motor leakage inductance
5	Flux Reg	Flux regulator
6	Speed Reg	Total inertia

Autotune Commutation Inductance [Autotune Lc]
Linear Number: 217
Default Value: 0.00 pu
Minimum Value: 0.00 pu
Maximum Value: 0.50 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the value of commutation inductance determined during autotuning. If the commutation inductance autotuning is successful, then parameter "L commutation" in the Current Control group is set equal to the value of this parameter. If the commutation inductance autotuning fails, then parameter "L commutation" is not changed. This test is not required for PWM rectifier drives.

Autotune DC Link Time Constant [Autotune Tdc]
Linear Number: 218
Default Value: 0.000 sec
Minimum Value: 0.000 sec
Maximum Value: 0.150 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the value of dc link reactor time constant determined during autotuning. If the dc link time constant measurement is successful, then parameter "T dc link" in the Current Control group is set equal to the value of this parameter. If the dc link time constant measurement fails, then parameter "T dc link" is not changed.

Autotune Stator Resistance [Autotune Rs]
Linear Number: 219
Default Value: 0.00 pu
Minimum Value: 0.00 pu
Maximum Value: 0.20 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the value of motor stator resistance determined during autotuning. If the stator resistance autotuning is successful, then parameter " R Stator " in the Motor Model group is set equal to the value of this parameter. If the stator resistance autotuning fails, then parameter " R stator" is not changed.

Autotune Leakage Inductance [Autotune Ls]
Linear Number: 220
Default Value: 0.00 pu
Minimum Value: 0.00 pu
Maximum Value: 0.50 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the value of motor leakage inductance determined during autotuning. If the leakage inductance autotuning is successful, then parameter "L total leakage" in the Motor Model group is set equal to the value of this parameter. If the leakage inductance autotuning fails, then parameter "L total leakage" is not changed.

Autotune Magnetizing Inductance [Autotune Lm]
Linear Number: 221
Default Value: 0.00 pu
Minimum Value: 0.00 pu
Maximum Value: 15.00 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the value of motor magnetizing inductance determined during flux regulator autotuning. If the magnetizing inductance measurement is successful, then parameter "L magnetizing" in the Motor Model group is set equal to the value of this parameter. If the magnetizing inductance measurement fails, then parameter "L magnetizing" is not changed.

Autotune Rotor Time Constant [Autotune T Rotor]
Linear Number: 222
Default Value: 0.00 sec
Minimum Value: 0.00 sec
Maximum Value: 10.00 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the value of rotor time constant determined during flux regulator autotuning. If the rotor time constant measurement is successful, then parameter "T rotor" in the Motor Model group is set equal to the value of this parameter. If the rotor time constant measurement fails, then parameter "T rotor" is not changed.

Autotune Inertia [Autotune Inertia]
Linear Number: 223
Default Value: 0.00 sec
Minimum Value: 0.00 sec
Maximum Value: 100.00 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the value of total system mechanical inertia measured during autotuning. If the inertia measurement is successful, then parameter "Total inertia" in the Speed Control group is set equal to the value of this parameter. If the inertia measurement fails, then parameter "Total inertia" is not changed.

Autotune D-axis Magnetizing Inductance [Autotune Lmd]
Linear Number: 224
Default Value: 0.00 pu
Minimum Value: 0.00 pu
Maximum Value: 10.00 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the value of d-axis magnetizing inductance for synchronous machines determined during flux regulator autotuning. If the magnetizing inductance measurement is successful, then parameter "Lmd" in the Motor Model group is set equal to the value of this parameter. If the magnetizing inductance measurement fails, then parameter "Lmd " is not changed. This parameter is not used for induction motors.

Autotune DC Current Bandwidth [Autotune Idc BW]
Linear Number: 212
Default Value: 50.0 r/s
Minimum Value: 10.0 r/s
Maximum Value: 100.0 r/s
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the bandwidth of the current regulator during autotuning of the dc link reactor time constant. A lower bandwidth is used during autotuning than during normal operation because a slower response can be measured more accurately.

Autotune DC Current Command [Autotune Idc Cmd]
Linear Number: 210
Default Value: 0.500 pu
Minimum Value: 0.100 pu
Maximum Value: 0.900 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the dc current command used during autotuning of the dc link time reactor constant. If the value of this parameter is set too low, the dc link current may become discontinuous and the autotuning may produce invalid results.

Autotune DC Current Step [Autotune Idc Stp]
Linear Number: 211
Default Value: 0.250 pu
Minimum Value: 0.000 pu
Maximum Value: 0.500 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the value of the step that is added to the dc current command during autotuning of the dc link reactor time constant. If the value of this parameter is set too high relative to the dc current command, the dc link current may become discontinuous and the autotuning may produce invalid results.

Autotune Isd Step [Autotune Isd Stp]
Linear Number: 216
Default Value: 0.100 pu
Minimum Value: 0.010 pu
Maximum Value: 0.200 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the size of the step that is added to the magnetizing current command during autotuning of the flux regulator for synchronous machines. It is not used for induction motors.

Autotune Speed Command [Autotune Spd Cmd]
Linear Number: 213
Default Value: 30.0 Hz
Minimum Value: 20.0 Hz
Maximum Value: 50.0 Hz
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the speed command used during autotuning of the flux regulator and total inertia. The overall drive Speed Command Minimum and Maximums are still active during autotuning.

Autotune Torque Step [Autotune Trq Stp]
Linear Number: 215
Default Value: 0.100 pu
Minimum Value: 0.050 pu
Maximum Value: 0.500 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the size of the torque step that is added to the torque command during autotuning of the total inertia. A value of 1.000 corresponds to rated torque. The overall Torque Command Limits are still active during autotuning.

Autotune Complete [Autotune Complte]
Linear Number: 375
Default Value: 0000000000000000
Access Level: Service
Read/Write: Read/Write

This parameter indicates the completion of the following autotune functions selected by the parameter Autotune Select:

Bit	Enum Text	Description
0	Comm Induct	Commutation inductance
1	Current Reg	DC link time constant
2	Stator Rest	Motor stator resistance
3	Leakage Ind	Motor leakage inductance
4	Flux Reg	Flux regulator
5	Speed Reg	Total inertia
6	Unused	
7	Unused	
8	Unused	
9	Unused	
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

Motor Model Parameters

I Stator [I Stator]
Linear Number: 340
Minimum Value: 0.000 pu
Maximum Value: 2.000 pu
Access Level: Monitor
Read/Write: Read Only

This parameter is the stator current magnitude. This is not useful for trending purposes as it is heavily filtered. This is a parameter for display purposes.

V Stator [V Stator]
Linear Number: 344
Minimum Value: 0.000 pu
Maximum Value: 2.000 pu
Access Level: Monitor
Read/Write: Read Only

This parameter is the calculated stator voltage magnitude. It varies with both speed and torque, and if the flux command is set correctly, should be about 1.0 pu at rated speed and rated load. The stator voltage may be less than 1.0 pu at rated speed if the load torque is less than rated or the line voltage is low.

Motor Power [Motor Power]
Linear Number: 346
Minimum Value: -2.000 pu
Maximum Value: 2.000 pu
Access Level: Monitor
Read/Write: Read Only

This parameter is the calculated motor power. A value of 1.000 corresponds to rated power. It is positive for motoring and negative for generating regardless of the direction of rotation.

Torque [Torque]
Linear Number: 345
Minimum Value: -1.500 pu
Maximum Value: 1.500 pu
Access Level: Monitor
Read/Write: Read Only

This parameter is the calculated motor torque. A value of 1.000 corresponds to rated torque. It is positive for forward torque and negative for reverse torque.

Rotor Frequency [Rotor Frequency]
Linear Number: 337
Minimum Value: 0.00 Hz
Maximum Value: 120.00 Hz
Access Level: Monitor
Read/Write: Read Only

This parameter specifies the measured rotor frequency. This is normalized regardless of the direction of rotation.

Slip Frequency [Slip Frequency]
Linear Number: 343
Minimum Value: -2.00 Hz
Maximum Value: 2.00 Hz
Access Level: Monitor
Read/Write: Read Only

This parameter is the calculated slip frequency of the motor. It is positive for motoring and negative for generating. For synchronous motors, this parameter is always equal to zero.

Stator Frequency [Stator Freq]
Linear Number: 448
Minimum Value: 0.00 Hz
Maximum Value: 120.00 Hz
Access Level: Service
Read/Write: Read Only

This parameter is the measured stator frequency of the motor. It is normalized regardless of the direction of rotation.

Line Filter Capacitor [Line Filter Cap]
Linear Number: 133
Minimum Value: 0.00 pu
Maximum Value: 2.00 pu
Access Level: Service
Read/Write: Read Only

This parameter specifies the per unit effective line filter capacitance for the PWM rectifier. It is calculated from the capacitor nameplate parameters (total kVAR, frequency and the voltage rating). This parameter is recalculated when any of the parameters affecting its value are changed. The normal range for this parameter is 0.35 to 0.5 pu. A warning will be displayed if this parameter is outside the range of ..35 to ..55 pu.

Motor Filter Capacitor [Motor Filter Cap]
Linear Number: 128
Minimum Value: 0.00 pu
Maximum Value: 0.75 pu
Access Level: Service
Read/Write: Read Only

This parameter specifies the per unit motor filter capacitance calculated from the capacitor nameplate parameters (total kVAR, frequency and the voltage rating). It is recalculated when any of the parameters affecting its value are changed. The normal range for this parameter is 0.40 to 0.60 pu. A warning will be displayed if this parameter is outside the range of 0.25 to 0.75 pu.

DC Link Inductance [L DC Link]
Linear Number: 114
Minimum Value: 0.00 pu
Maximum Value: 10.00 pu
Access Level: Service
Read/Write: Read Only

This parameter specifies the per unit dc link inductance calculated from the nameplate link inductance and the voltage and current ratings of the drive. It is recalculated when any of the parameters affecting its value are changed. This normal value of this parameter varies based on the drive reactor type. This parameter applies for both standard drives and drives with Direct-to-Drive technology.

Line Reactor pu [Line Reactor pu]
Linear Number: 625
Minimum Value: 0.00 pu
Maximum Value: 1.00 pu
Access Level: Service
Read/Write: Read Only

This parameter specifies the per unit ac line reactor value calculated from the parameter Line Reactor and the voltage and current ratings of the drive. It is recalculated when any of the parameters affecting its value are changed.

Stator D-Axis Current [Isd]
Linear Number: 338
Minimum Value: -2.000 pu
Maximum Value: 2.000 pu
Access Level: Service
Read/Write: Read Only

This parameter is the calculated D-axis or magnetizing component of the stator current. It is positive for magnetizing and negative for demagnetizing. This current will be provided from the inverter output and the motor filter capacitor.

Stator Q-Axis Current [Isq]
Linear Number: 339
Minimum Value: -2.000 pu
Maximum Value: 2.000 pu
Access Level: Service
Read/Write: Read Only

This parameter is the calculated Q-axis or torque component of the stator current. It is positive for motoring and negative for generating.

Stator D-Axis Voltage [Vsd]
Linear Number: 690
Minimum Value: -2.000
Maximum Value: 2.000
Access Level: Service
Read/Write: Read Only

This parameter represents the calculated stator voltage from the D-Axis or Magnetizing component of the Stator Current.

Stator Q-Axis Voltage [Vsq]
Linear Number: 691
Minimum Value: -2.000
Maximum Value: 2.000
Access Level: Service
Read/Write: Read Only

This parameter represents the calculated stator voltage from the Q-Axis or Torque-producing component of the Stator Current.

Magnetizing Inductance Measured [L Magn Measured]
Linear Number: 134
Minimum Value: 0.00 pu
Maximum Value: 15.00 pu
Access Level: Service
Read/Write: Read Only

This parameter represents the motor magnetizing inductance measured by the drive control. It is obtained by dividing the measured flux feedback by the magnetizing current. This parameter is continuously recalculated.

Magnetizing Inductance Predicted [Lm Predicted]
Linear Number: 701
Minimum Value: 0.00 pu
Maximum Value: 15.00 pu
Access Level: Service
Read/Write: Read Only

This parameter represents the expected Magnetizing Inductance for the given load and flux operating conditions. This parameter comes from an extrapolation of the Magnetizing Inductance parameters for different loads and speeds. But for most applications, this parameter will simply be the Magnetizing Inductance value from the Autotune results.

Stator Voltage Unfiltered [V Stator Unfil]
Linear Number: 554
Minimum Value: 0.000 pu
Maximum Value: 2.000 pu
Access Level: Service
Read/Write: Read Only

This parameter represents the unfiltered feedback from the stator voltage, and should be used for trending purposes as it is more accurate that V Stator.

Stator Current Unfiltered [I Stator Unfil]
Linear Number: 555
Minimum Value: 0.000 pu
Maximum Value: 2.000 pu
Access Level: Service
Read/Write: Read Only

This parameter represents the unfiltered feedback from the stator current, and should be used for trending purposes as it is more accurate that I Stator.

V Motor Fil Cap [V Motor Fil Cap]
Linear Number: 761
Minimum Value: 0.000 pu
Maximum Value: 2.000 pu
Access Level: Service
Read/Write: Read Only

Since for ESP applications, the drive output voltage is different from motor voltage, a new variable *Surface Voltage* (#760) is used to indicate the motor filter capacitor voltage in Volts. A variable *V Motor Fil Cap* (#761) displays the value in per unit. The variable *V Stator* (#344) displays the actual motor voltage in per unit. This is calculated from the measured capacitor voltage and compensating for the cable resistance drop using measured motor current. For non-ESP drives, the two variables *V Stator* and *V Motor Fil Cap* will have the same value.

Motor Power Factor [Mtr Power Factor]
Linear Number: 692
Minimum Value: 0.00
Maximum Value: 1.00
Access Level: Service
Read/Write: Read Only

This parameter is the measured motor Power Factor in per unit. The motor will always be a lagging power factor, and the feedback is active anytime the drive gating is enabled and in closed-loop mode with valid frequency feedback.

Total Leakage Inductance [L Total Leakage]
Linear Number: 130
Default Value: 0.25 pu
Minimum Value: 0.00 pu
Maximum Value: 0.75 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the per unit total leakage, short circuit, or transient inductance (Ls') of the motor. It is approximately equal to the sum of the stator and rotor leakage inductances, and the cable inductance, and has a typical value of 0.20 pu. The leakage inductance parameter is used in the calculation of the stator voltage and in the hardware reconstruction of the rotor flux. This parameter can be set manually or by autotuning.

Warning: An excessively high leakage inductance may cause the drive to become unstable at high speed high load.

Stator Resistance [R Stator]
Linear Number: 129
Default Value: 0.0000 pu
Minimum Value: 0.0000 pu
Maximum Value: 0.5000 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the per unit stator resistance of the motor. It is used in the calculation of the stator voltage and in the hardware reconstruction of the rotor flux. Stator resistance is usually less than 0.01 pu unless the motor is very small or the motor cables are very long. This parameter can be set manually or by autotuning.

Warning: An excessively high stator resistance may cause the drive to become unstable at low speed high load.

Magnetizing Inductance [L Magnetizing]
Linear Number: 131
Default Value: 3.50 pu
Minimum Value: 1.00 pu
Maximum Value: 15.00 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the per unit motor magnetizing inductance. Typical values of this parameter are in the range 2.0 pu to 6.0 pu for induction motors and 1.0 pu to 2.0 pu for synchronous motors. Magnetizing inductance can change significantly with changes in load and flux. This parameter represents the value at rated flux and rated load. This parameter can be set manually or by autotuning.

Rotor Time Constant [T Rotor]
Linear Number: 132
Default Value: 1.50 sec
Minimum Value: 0.10 sec
Maximum Value: 10.00 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the rotor time constant of the motor. Typical value is in the range 1.0 to 2.0 sec. The rotor time constant varies significantly with rotor temperature (due to the change in rotor resistance), which has some effect on the response of the flux regulator and the calculation of the slip frequency for induction motors. This parameter can be set manually or by autotuning.

D-Axis Magnetizing Inductance [Lmd]
Linear Number: 418
Default Value: 1.00 pu
Minimum Value: 0.10 pu
Maximum Value: 10.00 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the d-axis magnetizing inductance for synchronous motors. It can be set manually or by autotuning. This parameter is not used for induction motors.

Magnetizing Inductance Regen [Lm Regen]
Linear Number: 693
Default Value: 1.00
Minimum Value: 0.50
Maximum Value: 2.00
Access Level: Service
Read/Write: Read/Write

This parameter represents the value for the Magnetizing Inductance of the motor in full regeneration mode. Since a motor is a non-linear device, Magnetizing Inductance is the parameter that changes the most with load and flux levels, and for applications with Tachometer enabled and Low Speed, High Torque operating conditions, this parameter may need to be used to extrapolate Magnetizing Inductance for any load and flux reference. For most standard applications, the default value of this parameter is acceptable.

Magnetizing Inductance No Load Flux Min [Lm Noload FlxMin]
Linear Number: 694
Default Value: 1.00
Minimum Value: 0.50
Maximum Value: 2.00
Access Level: Service
Read/Write: Read/Write

This parameter represents the value for the Magnetizing Inductance of the motor with No Load and Minimum Flux. Since a motor is a non-linear device, Magnetizing Inductance is the parameter that changes the most with load and flux levels, and for applications with Tachometer enabled and Low Speed, High Torque operating conditions, this parameter may need to be used to extrapolate Magnetizing Inductance for any load and flux reference. For most standard applications, the default value of this parameter is acceptable

Magnetizing Inductance No Load Flux Max [Lm Noload FlxMax]
Linear Number: 695
Default Value: 1.00
Minimum Value: 0.50
Maximum Value: 2.00
Access Level: Service
Read/Write: Read/Write

This parameter represents the value for the Magnetizing Inductance of the motor with No Load and Maximum Flux. Since a motor is a non-linear device, Magnetizing Inductance is the parameter that changes the most with load and flux levels, and for applications with Tachometer enabled and Low Speed, High Torque operating conditions, this parameter may need to be used to extrapolate Magnetizing Inductance for any load and flux reference. For most standard applications, the default value of this parameter is acceptable

Refernce Command Parameters

Control Reference [Control Refernce]
Linear Number: 275
Minimum Value: 0.0 Hz
Maximum Value: 6553.5 Hz
Access Level: Basic
Read/Write: Read Only

This parameter specifies the control reference value used by the drive regulators. This value is selected from a local, remote or digital reference command as indicated by the parameter Reference Select.

Reference Feedback [Refernce Fbck]
Linear Number: 273
Minimum Value: 0.0 Hz
Maximum Value: 6553.5 Hz
Access Level: Basic
Read/Write: Read Only

This parameter specifies the actual reference feedback value measured by the drive.

Reference Command Digital max [Ref Cmd D max]
Linear Number: 46
Default Value: 60.0 Hz
Minimum Value: 0.0 Hz
Maximum Value: 120.0 Hz
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the upper limit value for the digital reference command.

Reference Command Digital min [Ref Cmd D min]
Linear Number: 45
Default Value: 6.0 Hz
Minimum Value: 0.0 Hz
Maximum Value: 120.0 Hz
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the lower limit value for the digital reference command.

Reference Command Local max [Ref Cmd L max]
Linear Number: 42
Default Value: 60.0 Hz
Minimum Value: 0.0 Hz
Maximum Value: 120.0 Hz
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the upper limit value for the local reference command.

Reference Command Local min [Ref Cmd L min]
Linear Number: 41
Default Value: 6.0 Hz
Minimum Value: -120.0 Hz
Maximum Value: 120.0 Hz
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the lower limit value for the local reference command.

Reference Command Remote max [Ref Cmd R max]
Linear Number: 44
Default Value: 60.0 Hz
Minimum Value: 0.0 Hz
Maximum Value: 120.0 Hz
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the upper limit value for the remote reference command.

Reference Command Remote min [Ref Cmd R min]
Linear Number: 43
Default Value: 6.0 Hz
Minimum Value: -120.0 Hz
Maximum Value: 120.0 Hz
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the lower limit value for the remote reference command.

Speed Command Parameters

Speed Command [Speed Command]
Linear Number: 277
Minimum Value: -100.0 Hz
Maximum Value: 100.0 Hz
Access Level: Basic
Read/Write: Read Only

This parameter is the drive speed command, which is the input to the speed ramp. It is set to zero when the drive is not running.

Speed Command Input [Speed Command In]
Linear Number: 276
Minimum Value: -100.0 Hz
Maximum Value: 100.0 Hz
Access Level: Basic
Read/Write: Read Only

This parameter is the value of the selected speed command input. It is valid whether the drive is running or not.

Speed Command Minimum [Spd Cmd Min]
Linear Number: 293
Default Value: 6.0 Hz
Minimum Value: 0.0 Hz
Maximum Value: 120.0 Hz
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the minimum value of the Speed Command. When the drive is running, the absolute value of the Speed Command (which is obtained from the active Reference Command, either Local, Remote, or Digital) is limited by this parameter and the Speed Command will not drop below this level regardless of any of the Reference Command Min levels.

Speed Command Maximum [Spd Cmd Max]
Linear Number: 290
Default Value: 60.0 Hz
Minimum Value: 0.0 Hz
Maximum Value: 120.0 Hz
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the maximum value of the Speed Command. When the drive is running, the absolute value of the Speed Command (which is obtained from the active Reference Command, either Local, Remote, or Digital) is limited by this parameter and the Speed Command will not exceed this level regardless of any of the Reference Command Max levels.

Preset Jog Speed [Preset Jog Speed]
Linear Number: 40
Default Value: 6.0 Hz
Minimum Value: 1.0 Hz
Maximum Value: 60.0 Hz
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the preset jog speed command, which is selected by the parameter Reference Select.

Preset Speed 1 [Preset Speed 1]
Linear Number: 33
Default Value: 30.0 Hz
Minimum Value: 0.5 Hz
Maximum Value: 75.0 Hz
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the preset speed 1 command which is selected by the parameter Reference Select.

Preset Speed 2 [Preset Speed 2]
Linear Number: 34
Default Value: 35.0 Hz
Minimum Value: 0.5 Hz
Maximum Value: 75.0 Hz
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the preset speed 2 command which is selected by the parameter Reference Select.

Preset Speed 3 [Preset Speed 3]
Linear Number: 35
Default Value: 40.0 Hz
Minimum Value: 0.5 Hz
Maximum Value: 75.0 Hz
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the preset speed 3 command which is selected by the parameter Reference Select.

Speed Control Parameters

Speed Reference [Speed Reference]
Linear Number: 278
Minimum Value: -100.0 Hz
Maximum Value: 100.0 Hz
Access Level: Monitor
Read/Write: Read Only

This parameter is the drive speed reference, which is the output of the speed ramp.

Speed Feedback [Speed Feedback]
Linear Number: 289
Minimum Value: -100.0 Hz
Maximum Value: 100.0 Hz
Access Level: Monitor
Read/Write: Read Only

This parameter is the calculated speed feedback after filtering. The speed feedback is positive for forward rotation and negative for reverse rotation.

Stator Q-Axis Current Command [Isq Command]
Linear Number: 292
Minimum Value: -2.000 pu
Maximum Value: 2.000 pu
Access Level: Advanced
Read/Write: Read Only

This parameter specifies the Q-axis or torque-producing Stator current command obtained by dividing the torque reference by the flux reference. It is positive for motoring and negative for generating.

Inverter Torque Current Command [Iy Command]
Linear Number: 294
Minimum Value: -2.000 pu
Maximum Value: 2.000 pu
Access Level: Advanced
Read/Write: Read Only

This parameter specifies the inverter torque current command and is obtained from Stator Q-Axis Current Command. The inverter produces almost all of the torque-producing current to the motor.

Speed Error [Speed Error]
Linear Number: 472
Minimum Value: -10.00 Hz
Maximum Value: 10.00 Hz
Access Level: Advanced
Read/Write: Read Only

This parameter is the speed error obtained by subtracting the speed feedback from the speed reference. It is useful for checking the step response of the speed loop.

Total Acceleration Time [Total Accel Time]
Linear Number: 61
Default Value: 25.0 sec
Minimum Value: 0.0 sec
Maximum Value: 1200.0 sec
Access Level: Monitor
Read/Write: Read/Write

This parameter specifies the time the drive will take to accelerate to rated speed. It is used in conjunction with the parameter Load Inertia to automatically calculate the acceleration and deceleration times. Any changes to the individual acceleration ramp times will automatically change this value to reflect the new sum, and changes to this parameter will in be reflected in automatic changes to the acceleration ramp times. This parameter is not active if S-Curve percentage is any value other than 0%.

Total Deceleration Time [Total Decel Time]
Linear Number: 62
Default Value: 23.0 sec
Minimum Value: 0.0 sec
Maximum Value: 1200.0 sec
Access Level: Monitor
Read/Write: Read/Write

This parameter specifies the time the drive will take to decelerate from rated speed to standstill. It is used in conjunction with parameter Load Inertia to automatically calculate the acceleration and deceleration times. Any changes to the individual deceleration ramp times will automatically change this value to reflect the new sum, and changes to this parameter will in be reflected in automatic changes to the deceleration ramp times. If the drive reaches the coast speed parameter value during a stop command deceleration, the drive will stop gating and coast to a stop. This parameter is not active if S-Curve percentage is any value other than 0%.

Load Inertia Type [Inertia Type]
Linear Number: 63
Default Value: Low
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the type of load inertia. It is used in conjunction with parameters Total Decel Time and Total Accel Time to calculate the acceleration and deceleration times. Some examples of low inertia applications include pumps and refiners. Some examples of high inertia loads include fans and banbury mixers. By setting this parameter from low to high, you will increase the default acceleration and deceleration times by a factor of 5.

The available options are:

Value	Enum Text	Description
0	Low	The application is a low inertia load
1	High	The application is a high inertia load

Total Inertia [Total Inertia]
Linear Number: 82
Default Value: 1.00 sec
Minimum Value: 0.10 sec
Maximum Value: 50.00 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the total inertia of the motor and load, which is defined as the time required to accelerate to the rated speed at the rated torque.

Speed Feedback Mode [Speed Fdbk Mode]
Linear Number: 89
Default Value: Sensorless
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the type of speed feedback used. The drive automatically switches to stator frequency feedback when a tach loss fault occurs. If the tach loss fault is successfully cleared the drive switches back to tach feedback mode the next time you stop and start the drive.

The available options are:

Value	Enum Text	Description
0	Sensorless	Stator Frequency with Slip Compensation
1	Pulse Tach	Tachometer/Encoder

Speed Regulator Bandwidth [Spdreg Bandwidth]
Linear Number: 81
Default Value: 1.0 r/s
Minimum Value: 0.1 r/s
Maximum Value: 15.0 r/s
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the small signal bandwidth of the speed control loop. It is used in the calculation of the speed regulator gains. This parameter affects only the response time of the speed regulator and not the overshoot.

Speed Reference Step [Speed Ref Step]
Linear Number: 88
Default Value: 0.0 Hz
Minimum Value: 0.0 Hz
Maximum Value: 2.0 Hz
Access Level: Service
Read/Write: Read/Write

This parameter specifies the magnitude of the step that is added to the speed error to demonstrate the step response of the speed loop. It is not saved and is initialized to zero at power up.

Speed Profile Parameters

S Curve Acceleration Time 1 [S Curve Acc1]
Linear Number: 481
Default Value: 20.0 sec
Minimum Value: 0.0 sec
Maximum Value: 999.0 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the total acceleration time when the S-Curve starting profile is selected, and the acceleration 1 time is chosen through SCANPort, and is the default time used when S-Curve is enabled..

S Curve Acceleration Time 2 [S Curve Acc2]
Linear Number: 482
Default Value: 20.0 sec
Minimum Value: 0.0 sec
Maximum Value: 999.0 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the total acceleration time when the S-Curve starting profile is selected, and the acceleration 2 time is chosen through SCANPort.

S Curve Deceleration Time 1 [S Curve Dec1]
Linear Number: 479
Default Value: 20.0 sec
Minimum Value: 0.0 sec
Maximum Value: 999.0 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the total deceleration time when the S-Curve starting profile is selected, and the deceleration 1 time is chosen through SCANPort, and is the default time used when S-Curve is enabled.

S Curve Deceleration Time 2 [S Curve Dec2]
Linear Number: 480
Default Value: 20.0 sec
Minimum Value: 0.0 sec
Maximum Value: 999.0 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the total deceleration time when the S-Curve starting profile is selected, and the deceleration 2 time is chosen through SCANPort.

S Curve Percent [S Curve Percent]
Linear Number: 475
Default Value: 0 %
Minimum Value: 0 %
Maximum Value: 100 %
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the non-linear part of the S-curve acceleration profile expressed as percentage of the total S-curve profile. You must set this parameter to 0% to disable S-curve Profile and allow Ramp Profile to be the active profile.

Acceleration Time 1 [Accel Time 1]
Linear Number: 65
Default Value: 5.0 sec
Minimum Value: 0.0 sec
Maximum Value: 1200.0 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time for the speed reference to increase from zero to Ramp Speed 1.

Acceleration Time 2 [Accel Time 2]
Linear Number: 66
Default Value: 3.0 sec
Minimum Value: 0.0 sec
Maximum Value: 1200.0 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time for the speed reference to increase from Ramp Speed 1 to Ramp Speed 2.

Acceleration Time 3 [Accel Time 3]
Linear Number: 67
Default Value: 14.0 sec
Minimum Value: 0.0 sec
Maximum Value: 1200.0 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time for the speed reference to increase from Ramp Speed 2 to Ramp Speed 3.

Acceleration Time 4 [Accel Time 4]
Linear Number: 68
Default Value: 3.0 sec
Minimum Value: 0.0 sec
Maximum Value: 1200.0 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time for the speed reference to increase from Ramp Speed 3 to Ramp Speed 4.

Deceleration Time 1 [Decel Time 1]
Linear Number: 69
Default Value: 3.0 sec
Minimum Value: 0.0 sec
Maximum Value: 300.0 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time for the speed reference to decrease from Ramp Speed 1 to zero.

Deceleration Time 2 [Decel Time 2]
Linear Number: 70
Default Value: 3.0 sec
Minimum Value: 0.0 sec
Maximum Value: 300.0 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time for the speed reference to decrease from Ramp Speed 2 to Ramp Speed 1.

Deceleration Time 3 [Decel Time 3]
Linear Number: 71
Default Value: 14.0 sec
Minimum Value: 0.0 sec
Maximum Value: 300.0 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time for the speed reference to decrease from Ramp Speed 3 to Ramp Speed 2.

Deceleration Time 4 [Decel Time 4]
Linear Number: 72
Default Value: 3.0 sec
Minimum Value: 0.0 sec
Maximum Value: 300.0 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time for the speed reference to decrease from Ramp Speed 4 to Ramp Speed 3.

Ramp Speed 1 [Ramp Speed 1]
Linear Number: 73
Default Value: 5.0 Hz
Minimum Value: 5.0 Hz
Maximum Value: 100.0 Hz
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the first break point in the speed ramp.

Ramp Speed 2 [Ramp Speed 2]
Linear Number: 74
Default Value: 12.0 Hz
Minimum Value: 5.0 Hz
Maximum Value: 100.0 Hz
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the second break point in the speed ramp. It must be greater than Ramp Speed 1.

Ramp Speed 3 [Ramp Speed 3]
Linear Number: 75
Default Value: 54.0 Hz
Minimum Value: 5.0 Hz
Maximum Value: 100.0 Hz
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the third break point in the speed ramp. It must be greater than Ramp Speed 2.

Ramp Speed 4 [Ramp Speed 4]
Linear Number: 76
Default Value: 60.0 Hz
Minimum Value: 5.0 Hz
Maximum Value: 100.0 Hz
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the fourth break point in the speed ramp. It must be greater than Ramp Speed 3.

Ramp Start Delay [Ramp Start Delay]
Linear Number: 78
Default Value: 3.0 sec
Minimum Value: 0.0 sec
Maximum Value: 10.0 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time the speed reference remains at zero after the drive is started. The purpose of the delay is to allow flux to be established in the motor before attempting to accelerate. If the torque required at starting is very low, then this parameter can be set to a small value such as 1 second, but should be set to a higher value if high starting torque is required. This parameter is active even when tach feedback is enabled.

Skip Speed Band 1 [Skip Spd Band 1]
Linear Number: 53
Default Value: 0.0 Hz
Minimum Value: 0.0 Hz
Maximum Value: 5.0 Hz
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the width of skip speed zone 1.

Skip Speed Band 2 [Skip Spd Band 2]
Linear Number: 54
Default Value: 0.0 Hz
Minimum Value: 0.0 Hz
Maximum Value: 5.0 Hz
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the width of skip speed zone 2.

Skip Speed Band 3 [Skip Spd Band 3]
Linear Number: 55
Default Value: 0.0 Hz
Minimum Value: 0.0 Hz
Maximum Value: 5.0 Hz
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the width of skip speed zone 3.

Skip Speed 1 [Skip Speed 1]
Linear Number: 49
Default Value: 90.0 Hz
Minimum Value: 1.0 Hz
Maximum Value: 90.0 Hz
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the center of skip speed zone 1.

Skip Speed 2 [Skip Speed 2]
Linear Number: 50
Default Value: 90.0 Hz
Minimum Value: 1.0 Hz
Maximum Value: 90.0 Hz
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the center of skip speed zone 2.

Skip Speed 3 [Skip Speed 3]
Linear Number: 51
Default Value: 90.0 Hz
Minimum Value: 1.0 Hz
Maximum Value: 90.0 Hz
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the center of skip speed zone 3.

Ramp Test Step [Ramp Test Step]
Linear Number: 80
Default Value: 0.0 Hz
Minimum Value: 0.0 Hz
Maximum Value: 30.0 Hz
Access Level: Service
Read/Write: Read/Write

This parameter specifies the magnitude of the step that is added to the speed command to demonstrate the response of the speed ramp. If this parameter is set to a non zero value, the drive will continuously ramp up and down between a maximum speed equal to the speed command plus the value of this parameter, and a minimum value equal to the speed command minus the value of this parameter. The ramp test function is intended for use in factory test only. This parameter is not saved and is initialized to zero at power up.

Current Control Parameters

DC Current Reference [Idc Reference]
Linear Number: 321
Minimum Value: 0.000 pu
Maximum Value: 2.000 pu
Access Level: Advanced
Read/Write: Read Only

This parameter is the dc link current reference.

DC Current Feedback [Idc Feedback]
Linear Number: 322
Minimum Value: -2.000 pu
Maximum Value: 2.000 pu
Access Level: Advanced
Read/Write: Read Only

This parameter is the measured dc link current feedback.

DC Current Error [Idc Error]
Linear Number: 323
Minimum Value: -1.000 pu
Maximum Value: 1.000 pu
Access Level: Advanced
Read/Write: Read Only

This parameter is the dc current error obtained by subtracting the dc current feedback from the dc current reference.

DC Voltage Reference [Vdc Reference]
Linear Number: 326
Minimum Value: -1.000
Maximum Value: 1.000
Access Level: Advanced
Read/Write: Read Only

This parameter is the dc voltage reference, which is the output of the current regulator after the advance limit and retard limit have been applied. A value of 1.000 corresponds to maximum positive voltage (motoring) and a value of –1.000 corresponds to maximum negative voltage (regenerating) regardless of the direction of motor rotation.

Master Bridge Line Frequency [Master Line Freq]
Linear Number: 334
Minimum Value: -100.0 Hz
Maximum Value: 100.0 Hz
Access Level: Service
Read/Write: Read Only

This parameter specifies the instantaneous frequency of the voltage on the Master bridge for 18-pulse drives, and for the input of 6-Pulse and PWM drives. The sign of the frequency is negative for reverse phase sequence on that bridge.

Slave 1 Bridge Line Frequency [Slave1 Line Freq]
Linear Number: 335
Minimum Value: -100.0 Hz
Maximum Value: 100.0 Hz
Access Level: Service
Read/Write: Read Only

This parameter specifies the instantaneous frequency of the voltage on the Slave 1 bridge for 18-pulse drives. The sign of the frequency is negative for reverse phase sequence on that bridge.

Slave 2 Bridge Line Frequency [Slave2 Line Freq]
Linear Number: 239
Minimum Value: -100.0 Hz
Maximum Value: 100.0 Hz
Access Level: Service
Read/Write: Read Only

This parameter specifies the instantaneous frequency of the voltage on the Slave 2 bridge for 18-pulse drives. The sign of the frequency is negative for reverse phase sequence on that bridge.

Current Feedback Line [I Fbk Line]
Linear Number: 122
Minimum Value: -2.000 pu
Maximum Value: 2.000 pu
Access Level: Service
Read/Write: Read Only

This parameter specifies the measured value of line current in per-unit.

V Line Average [V Line Average]
Linear Number: 135
Minimum Value: 0.000 pu
Maximum Value: 2.000 pu
Access Level: Service
Read/Write: Read Only

This parameter specifies the calculated value of the input line voltage in per-unit. This is a summation of all the bridge voltages (V Master, Slave 1, Slave 2), and it is filtered for display purposes.

V Master Average [Vmaster Average]
Linear Number: 136
Minimum Value: 0.000 pu
Maximum Value: 2.000 pu
Access Level: Service
Read/Write: Read Only

This parameter specifies the measured master bridge input voltage. This is sensed on the input to the rectifier bridge, but is compensated back up to the line-side of the input magnetics using the parameter Commutation Inductance. This is an unfiltered signal that should be used in trending.

V Slave 1 Average [Vslave1 Average]
Linear Number: 137
Minimum Value: 0.000 pu
Maximum Value: 2.000 pu
Access Level: Service
Read/Write: Read Only

This parameter specifies the measured slave 1 bridge input voltage in per unit. This parameter is valid for 18 SCR drives only. This is sensed on the input to the rectifier bridge, but is compensated back up to the line-side of the input magnetics using the parameter Commutation Inductance. This is an unfiltered signal that should be used in trending.

V Slave 2 Average [Vslave2 Average]
Linear Number: 138
Minimum Value: 0.000 pu
Maximum Value: 2.000 pu
Access Level: Service
Read/Write: Read Only

This parameter specifies the measured slave 2 bridge input voltage in per unit. This parameter is valid for 18 SCR drives only. This is sensed on the input to the rectifier bridge, but is compensated back up to the line-side of the input magnetics using the parameter Commutation Inductance. This is an unfiltered signal that should be used in trending.

V Line Bridge [Vline Bridge]
Linear Number: 696
Minimum Value: 0.000 pu
Maximum Value: 2.000 pu
Access Level: Service
Read/Write: Read Only

This parameter is a filtered summation of the sensed bridge voltages. This parameter is not compensated using the Commutation Inductance, and should be an accurate indication of the total voltage into the rectifier bridge. This parameter is used for field weakening applications.

Slave1 Bridge Phase Angle [Slv1 Angle]
Linear Number: 616
Minimum Value: -360.0 deg
Maximum Value: 360.0 deg
Access Level: Service
Read/Write: Read Only

This parameter is the measured phase angle between the Master and the Slave 1 bridges and is applicable for 18 SCR drives only. It should be close to –20 deg.

Slave2 Bridge Phase Angle [Slv2 Angle]
Linear Number: 617
Minimum Value: -360.0 deg
Maximum Value: 360.0 deg
Access Level: Service
Read/Write: Read Only

This parameter is the measured phase angle between the Master and the Slave 2 bridges and is applicable for 18 SCR drives only. It should be close to +20 deg.

Common-Mode Current [I Common Mode]
Linear Number: 697
Minimum Value: 0.00 A
Maximum Value: 655.35 A
Access Level: Service
Read/Write: Read Only

This is the calculated current in the Neutral Resistor, and is calculated using the measured voltage on the neutral of both the Line and Motor Filter Capacitors, and the programmed Neutral Resistor value.

I CM Unfil [I CM Unfil]
Linear Number: 768
Minimum Value: 0.00 A
Maximum Value: 655.35 A
Access Level: Service
Read/Write: Read Only

The accuracy of the RMS neutral current measurement has been improved. This is used for determining steady state common-mode current. *I Common Mode* #697 is now heavily filtered, and rounded to the nearest ¼ Ampere. This should be used for steady state measurements. The improvements in measurement accuracy are accomplished using a 4kHz sample rate 4 sample rolling average to reduce the effects of the A/D noise. Calibration for the noise floor now includes a dead-band in the measurement to prevent the drive from displaying a current when the measurement is in the noise floor. The unfiltered value of the common-mode current *I CM Unfil* #768 in *Current Control* is fast responding and can be used in trending the real-time value of the current. However this variable is not very smooth.

I CM Peak [I CM Peak]
Linear Number: 779
Minimum Value: 0.00 A
Maximum Value: 655.35 A
Access Level: Service
Read/Write: Read Only

This display the peak value of common mode current.

Peak Tran Volt [Peak Tran Volt]
Linear Number: 778
Minimum Value: 0.000 pu
Maximum Value: 2.000 pu
Access Level: Service
Read/Write: Read Only

The peak capacitor voltage during the last bus transient is saved in the variable *Peak Tran Volt* #778.

Bus Tran Level [Bus Tran Level]
Linear Number: 767
Minimum Value: 0.000 pu
Maximum Value: 32.767 pu
Access Level: Service
Read/Write: Read Only

The bus transient algorithm has be improved to reduce self-induced nuisance trips caused by fast dc current, pulse number and firing angle changes. The rectifier temporarily disables the bus transient when it determines that it may generate a transient in the input filter.
Bus Tran Level #767 in the *Current Control* group. This can be compared to *Bus Tran Trip* #684 to determine when the transient occurs.

Bus Transient Trip [Bus Tran Trip]
Linear Number: 684
Minimum Value: 0.000 pu
Maximum Value: 32.767 pu
Access Level: Service
Read/Write: Read Only

This parameter shows the internal Bus Transient Trip value.

Idc Ref Limit [Idc Ref Limit]
Linear Number: 773
Minimum Value: 0.000 pu
Maximum Value: 2.000 pu
Access Level: Service
Read/Write: Read Only

This is the maximum allowable dc current reference the rectifier will use based on the dc-overcurrent trip and dc-current ripple etc.

Current Regulator Bandwidth [Curreg Bandwidth]
Linear Number: 113
Default Value: 200.0 r/s
Minimum Value: 50.0 r/s
Maximum Value: 600.0 r/s
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the small signal bandwidth of the current control loop. It is used in the calculation of the current regulator gain. This parameter affects only the response time of the current regulator and not the overshoot. It is normally set to 200 radian/second.

DC Current Test Command [Idc Command Test]
Linear Number: 119
Default Value: 0.000 pu
Minimum Value: 0.000 pu
Maximum Value: 1.500 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the value of the dc current command when the drive is operating in dc current test mode. It is not saved and is initialized to zero at power up.

DC Current Reference Step [Idc Ref Step]
Linear Number: 120
Default Value: 0.000 pu
Minimum Value: 0.000 pu
Maximum Value: 1.000 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the magnitude of the step that is added to the dc current command to demonstrate the step response of the current loop. It is not saved and is initialized to zero at power-up.

DC Link Time Constant [T DC Link]
Linear Number: 115
Default Value: 0.040 sec
Minimum Value: 0.015 sec
Maximum Value: 0.150 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time constant of the dc current regulator. It affects both the response time and overshoot of the regulator, and should be adjusted to produce a step response that has zero or a very small overshoot. This parameter can be set manually or by autotuning.

Commutation Inductance [L Commutation]
Linear Number: 140
Default Value: 0.0500 pu
Minimum Value: 0.0000 pu
Maximum Value: 0.5000 pu
Access Level: Service
Read/Write: Read/Write

This parameter specifies the commutating inductance of the line converter. This is roughly equal to the impedance of the supply, including the isolating transformer if present, expressed in the per unit system of the drive. It is used in the calculation of the retard limit for the line converter, and reconstruction of the line voltage parameters. This parameter can be set manually or by autotuning.

Feedforward Filter [Feedforward Fil]
Linear Number: 502
Default Value: 2.0 Hz
Minimum Value: 0.0 Hz
Maximum Value: 120.0 Hz
Access Level: Service
Read/Write: Read/Write

This parameter specifies the corner frequency of the filter used in the current regulator. It is used to calculate the feed-forward term from the measured stator voltage. This parameter is useful in load-sharing conveyor applications, where it can be used to effectively dampen system resonance.

Torque Control Parameters

Torque Reference [Torque Reference]
Linear Number: 291
Minimum Value: -1.500
Maximum Value: 1.500
Access Level: Advanced
Read/Write: Read Only

This parameter specifies the value of the drive torque command obtained from the speed regulator.

Torque Command 0 [Trq Command 0]
Linear Number: 86
Default Value: 0.15
Minimum Value: 0.00
Maximum Value: 1.50
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the value of the torque command at zero speed used in starting mode. It may be higher or lower than Torque Command 1. If this parameter is set too low the motor may not start. If it is set too high the start will be excessively rough and noisy. A value of 1.00 corresponds to rated motor torque. This parameter has no effect if the optional tachometer or encoder feedback is enabled.

Torque Command 1 [Trq Command 1]
Linear Number: 87
Default Value: 0.15
Minimum Value: 0.00
Maximum Value: 1.50
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the value of the torque command at the speed when the drive switches to close-loop and above used in starting mode. It may be higher or lower than Torque Command 0. In starting mode, the torque command changes linearly from Torque Command 0 at zero speed to Torque Command 1 at close-loop speed. When the drive switches from starting mode to normal running mode and the speed regulator is released, the torque command is initially equal to the value of this parameter. If it is set too low, the motor may stall before the speed regulator has time to increase the torque command. If it is set too high, the motor will accelerate very rapidly after the transition until the speed regulator is able to decrease the torque command to the value required to follow the speed ramp. A value of 1.00 corresponds to rated motor torque. This parameter has no effect if the optional tachometer or encoder feedback is enabled.

Torque Command External [Trq Command Ext]
Linear Number: 91
Default Value: 0.000
Minimum Value: -1.500
Maximum Value: 1.500
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the external torque command. The function of this parameter depends on the parameter Torque Control Mode. A value of 1.00 corresponds to rated motor torque. Note that motoring torque is positive for forward rotation and negative for reverse rotation.

Torque Control Mode Setting		Torque Command External effect
0	Zero Torque	None
1	Speed Regulation	None
2	External Torque Command	Used as the External Torque Command
3	Speed Torque Positive	Sets Positive Torque Limit
4	Speed Torque Negative	Sets Negative Torque Limit
5	Speed Summation	Added to the Speed Regulator Output

Torque Control Mode [Trq Control Mode]
Linear Number: 90
Default Value: Speed Reg
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the torque control mode. Depending on this parameter drive determines different torque command values. The external torque command and external torque limits are defined by the parameter Trq Command Ext.

The parameter is defined as:

Value	Enum Text	Description
0	Zero Torque	The drive issues zero torque command.
1	Speed Reg	The drive uses the speed regulator to determine the torque command.
2	Ext Torq Cmd	The drive uses an external torque command.
3	Spd Torq pos	The drive uses the speed regulator with an external positive torque limit.
4	Spd Torq neg	The drive uses the speed regulator with an external negative torque limit.
5	Spd Sum	The torque command is sum of speed regulator and external torque command.

Torque Limit Braking [Trq Lmt Braking]
Linear Number: 85
Default Value: 0.50
Minimum Value: 0.00
Maximum Value: 1.50
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the maximum value of the torque command when braking or generating. A value of 1.00 corresponds to rated motor torque.

Torque Limit Motoring [Trq Lmt Motoring]
Linear Number: 84
Default Value: 1.00
Minimum Value: 0.00
Maximum Value: 1.50
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the maximum value of the torque command when motoring. A value of 1.00 corresponds to rated motor torque.

Torque Rate Limit [Trq Rate Limit]
Linear Number: 83
Default Value: 10.00
Minimum Value: 0.00
Maximum Value: 60.00
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the maximum change allowed in the torque command in one second. The purpose of this parameter is to prevent rapid changes in motor torque that might damage shafts and couplings. A value of 1.00 corresponds to rated motor torque in one second. Setting the torque rate limit too low will cause the speed regulator to overshoot.

Torque Rate Limit 0 [Trq Rate Limit0]
Linear Number: 645
Default Value: 1.00
Minimum Value: 0.00
Maximum Value: 60.00
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the maximum change allowed in the torque command in one second during open loop starting. The purpose of this parameter is to allow torque to be applied slowly when starting to avoid exciting the torsional natural frequency of the mechanical system. This parameter is used only during open loop starting. The normal Torque Rate Limit parameter is used when running and when starting with the optional tach feedback enabled.

Torque Limit Overload [Trq Lmt Overload]
Linear Number: 658
Default Value: 1.00
Minimum Value: 0.00
Maximum Value: 1.50
Access Level: Advanced
Read/Write: Read/Write

This parameter is used to ensure the temporary overload capability of the drive is not exceeded. For a drive programmed with a Torque Limit Motoring greater than 1.00 (it may be needed for starting, or other certain intermittent conditions), when the drive reaches a point where it is about to fault on overload, it will reduce the torque to Torque Limit Overload. This parameter should be set to 1.00 pu, and setting it to a value equal to or greater than Torque Limit Motoring would disable it.

Torque Command 0 Tachometer [Trq Cmd0 Tach]
Linear Number: 641
Default Value: 0.00
Minimum Value: 0.00
Maximum Value: 1.50
Access Level: Service
Read/Write: Read/Write

This parameter specifies the initual torque when starting with a tachometer. The default of 0.00 allows the drive to start providing zero torque and ramp up to the required torque determined by the speed control loop. By setting this to a value above 0.00, you simply provide more torque until the control loops can take over.

Pwr Lmt Motoring [Pwr Lmt Motoring]
Linear Number: 747
Default Value: 1.50
Minimum Value: 0.00
Maximum Value: 1.50
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the maximum motor power when motoring. The torque command will be reduced as required to keep the motor power from exceeding this limit. A value of 1.00 corresponds to rated motor power.

Pwr Lmt Braking [Pwr Lmt Braking]
Linear Number: 748
Default Value: 1.50
Minimum Value: 0.00
Maximum Value: 1.50
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the maximum motor power when braking or regenerating. The torque command will be reduced as required to keep the motor power from exceeding this limit. A value of 1.00 corresponds to rated motor power.

Flux Control Parameters

Flux Reference [Flux Reference]
Linear Number: 305
Minimum Value: 0.000 pu
Maximum Value: 2.000 pu
Access Level: Advanced
Read/Write: Read Only

This parameter specifies the rotor flux reference, which varies between a minimum value set by parameter Flux Command No Load and a maximum value set by parameter Flux Command Base Speed. The flux reference varies directly with torque at all speeds, and decreases with speed above Base Speed. The flux reference is also automatically reduced if the current regulator approaches advance limit or retard limit, which can occur when running at high speed and high torque with low line voltage.

Flux Feedback [Flux Feedback]
Linear Number: 306
Minimum Value: 0.000 pu
Maximum Value: 2.000 pu
Access Level: Advanced
Read/Write: Read Only

This parameter specifies the selected flux feedback, either Flux from Voltage, Flux from Current, or a combination of both. Below 3 Hz, flux from current is used to calculate Flux Feedback. Between 3 and 5 Hz, a combination of the Flux from Current and Flux from Voltage is used to reconstruct the Flux Feedback. Above 5 Hz, the Flux from Voltage is used to reconstruct the Flux Feedback in the motor control.

Flux Error [Flux Error]
Linear Number: 307
Minimum Value: -2.000 pu
Maximum Value: 2.000 pu
Access Level: Advanced
Read/Write: Read Only

This parameter specifies the flux error obtained by subtracting the flux feedback from the flux reference.

Flux from Voltage [Flx from Voltage]
Linear Number: 342
Minimum Value: 0.000 pu
Maximum Value: 1.500 pu
Access Level: Service
Read/Write: Read Only

This parameter specifies the measured motor flux feedback from the voltage model. This is used above 5 Hz for flux feedback.

Flux From Current [Flx from Current]
Linear Number: 341
Minimum Value: 0.000 pu
Maximum Value: 1.500 pu
Access Level: Service
Read/Write: Read Only

This parameter specifies the measured motor flux from the current feedback. This is used in the lower speed ranges (0-3 Hz) for the flux feedback.

Stator Frequency from Current [Stator Freq C]
Linear Number: 486
Minimum Value: 0.0 Hz
Maximum Value: 100.0 Hz
Access Level: Service
Read/Write: Read Only

This parameter specifies the value of Stator Frequency determined from the current feedback from the motor. This parameter is particularly useful in Open Loop Test Mode, when we are testing all the feedback paths to ensure the integrity of the system.

Stator Frequency from Voltage [Stator Freq V]
Linear Number: 485
Minimum Value: 0.0 Hz
Maximum Value: 100.0 Hz
Access Level: Service
Read/Write: Read Only

This parameter specifies the value of Stator Frequency determined from the voltage feedback from the motor. This parameter is particularly useful in Open Loop Test Mode, when we are testing all the feedback paths to ensure the integrity of the system.

Flux Regulator Bandwidth [Flxreg Bandwidth]
Linear Number: 97
Default Value: 10.0 r/s
Minimum Value: 1.0 r/s
Maximum Value: 30.0 r/s
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the small signal bandwidth of the flux control loop. It is used in the calculation of the flux regulator gain. The maximum bandwidth possible for stable flux control tends to decrease as motor size increases.

Flux Minimum [Flux minimum]
Linear Number: 156
Default Value: 0.20 pu
Minimum Value: 0.20 pu
Maximum Value: 2.00 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the minimum flux level for operation in the normal running mode. Improvements in the drive flux control has allowed the default minimum value to be lowered to .20 pu.

Base Speed [Base Speed]
Linear Number: 98
Default Value: 60.0 Hz
Minimum Value: 25.0 Hz
Maximum Value: 100.0 Hz
Access Level: Service
Read/Write: Read/Write

This parameter specifies the frequency at which field weakening begins. Base Speed is normally set equal to the rated frequency of the motor. It can be set to a lower value only if the motor is specially designed to operate at a higher than normal flux level without saturating. There are hardware limits when setting this value too low, so contact the factory if the base speed is less than 50Hz.

Flux Reference Step [Flx Ref Step]
Linear Number: 102
Default Value: 0.000 pu
Minimum Value: 0.000 pu
Maximum Value: 0.100 pu
Access Level: Service
Read/Write: Read/Write

This parameter specifies the magnitude of the step that is added to the flux reference to demonstrate the step response of the flux loop. It is not saved and is initialized to zero at power-up. This parameter is also used during manual drive tuning.

Flux Command Parameters

I Field Command [I Field Command]
Linear Number: 314
Minimum Value: 0.000 pu
Maximum Value: 1.000 pu
Access Level: Advanced
Read/Write: Read Only

This parameter specifies the current command for the synchronous motor field supply. For synchronous drives, this parameter must be assigned to one of the CIB analog outputs. An analog output of 10.0 V corresponds to maximum field current, which should be somewhat higher than rated field current. The scaling of the field current command can be adjusted to match the scaling of the field supply current reference input using the associated analog output scaling parameter. For induction motors this parameter is always equal to zero.

Isd Command [Isd Command]
Linear Number: 310
Minimum Value: -2.000 pu
Maximum Value: 2.000 pu
Access Level: Advanced
Read/Write: Read Only

This parameter specifies the magnetizing or D-axis stator current command, which is the sum of Isd Command 0 and Isd Command 1.

Isd Command 0 [Isd Command 0]
Linear Number: 308
Minimum Value: -2.000 pu
Maximum Value: 2.000 pu
Access Level: Advanced
Read/Write: Read Only

This parameter specifies the feedforward component of the magnetizing or D-axis stator current command. It is an estimate of the steady state D-axis current and is always positive. This value should represent the baseline magnetizing current of the motor, determined from the Magnetizing Inductance of the motor.

Isd Command 1 [Isd Command 1]
Linear Number: 309
Minimum Value: -2.000 pu
Maximum Value: 2.000 pu
Access Level: Advanced
Read/Write: Read Only

This parameter specifies the closed loop correction component of the magnetizing or D-axis stator current command. It is the output of the flux regulator and may be positive or negative. This is the correction to the magnetizing current based on the operating conditions of the motor.

Ix Command [Ix Command]
Linear Number: 312
Minimum Value: -2.000 pu
Maximum Value: 2.000 pu
Access Level: Advanced
Read/Write: Read Only

This parameter specifies the magnetizing current command for the inverter obtained from Isd Command using the filter capacitor model. It is positive for lagging current and negative for leading current.

Flux Command Limit [Flux Cmd Limit]
Linear Number: 623
Minimum Value: 0.000 pu
Maximum Value: 1.500 pu
Access Level: Service
Read/Write: Read Only

This parameter specifies the maximum value of flux reference calculated from speed and line voltage. This is used to prevent the current regulator from hitting advance limits.

Flux Command Base Speed [Flx Cmd Base Spd]
Linear Number: 100
Default Value: 0.900 pu
Minimum Value: 0.000 pu
Maximum Value: 1.500 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the value of the flux command at base speed and rated load. The flux command will never be greater than this parameter, which can be set manually or by autotuning.

Flux Command No Load [Flx Cmd No Load]
Linear Number: 103
Default Value: 0.700 pu
Minimum Value: 0.400 pu
Maximum Value: 1.500 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the value of the flux command at no load. The flux command will change linearly from Flux Command No Load to Flux Command Base Speed as Torque Reference changes from 0.00 to 1.00. Reducing the motor flux improves efficiency when running for extended periods at less than full load. The maximum torque capability of the drive is reduced in proportion to the reduction in flux. If the load increases suddenly when the drive is running with reduced flux, there may be a large drop in speed until the flux can be restored to its normal level. If Flux Command No Load is set higher than Flux Command Base Speed, the flux command will not vary with load.

Icd Command Gain [Icd Command Gain]
Linear Number: 107
Default Value: 0.5
Minimum Value: 0.0
Maximum Value: 1.0
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the gain of the capacitor current compensation for synchronous motors. When this parameter is set to its minimum value of 0.0, all the current for the motor filter capacitor is supplied by the drive. The line current is higher than the motor current and the motor operates at approximately unity power factor. When this parameter is set to its maximum value of 1.0, the motor supplies all the current for the motor filter capacitor. The line current is less than the motor current and the motor operates at a lagging power factor with reduced field current. When this parameter is set to its default value of 0.5, approximately half the motor filter capacitor current is supplied by the drive and half by the motor. The line current and the motor current are approximately equal and the motor power factor is slightly lagging. This parameter is not used for induction motors.

I Field Command Bandwidth [If Cmd Bandwidth]
Linear Number: 106
Default Value: 1.0 r/s
Minimum Value: 0.1 r/s
Maximum Value: 10.0 r/s
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the bandwidth of the field current command for synchronous motors. It should be set to a value that is less than the bandwidth of both the flux regulator and the field current control.

Fault Config Parameters

Input Protection 1 Fault Class [InputProt1 Class]
Linear Number: 440
Default Value: Class 2 Flt
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the class of one of the possible protective devices installed to provide line protection. This is usually an overload or protective relay on the input isolation transformer or line reactor. The following options are available:

Value	Enum Text	Description
0	Disable	This disables the fault input.
1	Class 1 Flt	The drive will shut down immediately
2	Class 2 Flt	The drive will perform a controlled shut down
3	Warning	The drive will not shut down but a warning will be displayed

Transformer/Line Reactor Fault Class [Xfmr/LR OT Class]
Linear Number: 441
Default Value: Class 2 Flt
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the class of the isolation transformer or the line reactor protective signal. This is usually a thermal switch in the isolation transformer or AC Line reactor winding. The following options are available:

Value	Enum Text	Description
0	Disable	This disables the fault input.
1	Class 1 Flt	The drive will shut down immediately
2	Class 2 Flt	The drive will perform a controlled shut down
3	Warning	The drive will not shut down but a warning will be displayed

DC Link Fault Class [DC Link OT Class]
Linear Number: 442
Default Value: Class 2 Flt
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the class of the dc link protection scheme. This is usually a thermal switch in the DC link reactor or Common-Mode Choke. The following options are available:

Value	Enum Text	Description
0	Disable	This disables the fault input.
1	Class 1 Flt	The drive will shut down immediately
2	Class 2 Flt	The drive will perform a controlled shut down
3	Warning	The drive will not shut down but a warning will be displayed

Motor Protection Fault Class [Motor Prot Class]
Linear Number: 443
Default Value: Class 2 Flt
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the class of the motor protective device. This is usually a protective relay on the motor. The following options are available:

Value	Enum Text	Description
0	Disable	This disables the fault input.
1	Class 1 Flt	The drive will shut down immediately
2	Class 2 Flt	The drive will perform a controlled shut down
3	Warning	The drive will not shut down but a warning will be displayed

Input Protection 2 Fault Class [InputProt2 Class]
Linear Number: 444
Default Value: Class 2 Flt
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the class of the second of the possible protective devices installed to provide line protection. This is usually an overload or protective relay on the input isolation transformer or line reactor, or from a source further upstream. The following options are available:

Value	Enum Text	Description
0	Disable	This disables the fault input.
1	Class 1 Flt	The drive will shut down immediately
2	Class 2 Flt	The drive will perform a controlled shut down
3	Warning	The drive will not shut down but a warning will be displayed

Auxiliary Protection Class [Aux Prot Class]
Linear Number: 445
Default Value: Class 2 Flt
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the class of any other protective device that is used in the drive system. This essentially is a spare input for any customer-specific protective device. The following options are available:

Value	Enum Text	Description
0	Disable	This disables the fault input.
1	Class 1 Flt	The drive will shut down immediately
2	Class 2 Flt	The drive will perform a controlled shut down
3	Warning	The drive will not shut down but a warning will be displayed

Fixed Fault Mask [Fixd Fault Mask]
Linear Number: 435
Default Value: 11111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the masks for the fixed faults. A one represents enabled fault, a zero represents disabled fault. The following faults are maskable:

Bit	Enum Text	Description
0	Input Protn1	Input Protection 1 fault
1	Xfmr/LR OT	Isolation Transformer/Line Reactor Overtemperature fault
2	DC Link OT	DC Link / Common-Mode Choke Overtemperature fault
3	Motor Prot'n	Motor Protection fault
4	Unused	
5	Input Protn2	Input Protection 2 fault
6	Aux Prot'n	Auxiliary Protection fault
7	Unused	

External Fault Select [Ext Fault Selct]
Linear Number: 651
Default Value: 0000000000000000
Access Level: Basic
Read/Write: Read/Write

This parameter specifies whether the external fault inputs are coming from the optional XIO card or the PLC. The parameter allows the user to choose whether the faults come from the XIO board, or from a PLC, or from a combination of the 2 sources. By setting the bit to a 1, the associated external fault comes from the PLC. Setting the bit to a zero allows the external fault to come from the XIO board.

External Fault 1 Class [Ext flt 1 Class]
Linear Number: 200
Default Value: Class 2 Flt
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the class of the external fault 1. This is applicable only if an additional XIO board is installed. The following options are available:

Value	Enum Text	Description
0	Disable	This disables the fault input.
1	Class 1 Flt	The drive will shut down immediately
2	Class 2 Flt	The drive will perform a controlled shut down
3	Warning	The drive will not shut down but a warning will be displayed

External Fault 2 Class [Ext flt 2 Class]
Linear Number: 201
Default Value: Class 2 Flt
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the class of the external fault 2. The following options are available:

Value	Enum Text	Description
0	Disable	This disables the fault input.
1	Class 1 Flt	The drive will shut down immediately
2	Class 2 Flt	The drive will perform a controlled shut down
3	Warning	The drive will not shut down but a warning will be displayed

External Fault 3 Class [Ext flt 3 Class]
Linear Number: 202
Default Value: Class 2 Flt
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the class of the external fault 3. The following options are available:

Value	Enum Text	Description
0	Disable	This disables the fault input.
1	Class 1 Flt	The drive will shut down immediately
2	Class 2 Flt	The drive will perform a controlled shut down
3	Warning	The drive will not shut down but a warning will be displayed

External Fault 4 Class [Ext flt 4 Class]
Linear Number: 203
Default Value: Class 2 Flt
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the class of the external fault 4. The following options are available:

Value	Enum Text	Description
0	Disable	This disables the fault input.
1	Class 1 Flt	The drive will shut down immediately
2	Class 2 Flt	The drive will perform a controlled shut down
3	Warning	The drive will not shut down but a warning will be displayed

External Fault 5 Class [Ext flt 5 Class]
Linear Number: 204
Default Value: Class 2 Flt
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the class of the external fault 5. The following options are available:

Value	Enum Text	Description
0	Disable	This disables the fault input.
1	Class 1 Flt	The drive will shut down immediately
2	Class 2 Flt	The drive will perform a controlled shut down
3	Warning	The drive will not shut down but a warning will be displayed

External Fault 6 Class [Ext flt 6 Class]
Linear Number: 205
Default Value: Class 2 Flt
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the class of the external fault 6. The following options are available:

Value	Enum Text	Description
0	Disable	This disables the fault input.
1	Class 1 Flt	The drive will shut down immediately
2	Class 2 Flt	The drive will perform a controlled shut down
3	Warning	The drive will not shut down but a warning will be displayed

External Fault 7 Class [Ext flt 7 Class]
Linear Number: 206
Default Value: Class 2 Flt
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the class of the external fault 7. The following options are available:

Value	Enum Text	Description
0	Disable	This disables the fault input.
1	Class 1 Flt	The drive will shut down immediately
2	Class 2 Flt	The drive will perform a controlled shut down
3	Warning	The drive will not shut down but a warning will be displayed

External Fault 8 Class [Ext flt 8 Class]
Linear Number: 207
Default Value: Class 2 Flt
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the class of the external fault 8. The following options are available:

Value	Enum Text	Description
0	Disable	This disables the fault input.
1	Class 1 Flt	The drive will shut down immediately
2	Class 2 Flt	The drive will perform a controlled shut down
3	Warning	The drive will not shut down but a warning will be displayed

External Fault 9 Class [Ext flt 9 Class]
Linear Number: 410
Default Value: Class 2 Flt
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the class of the external fault 9. The following options are available:

Value	Enum Text	Description
0	Disable	This disables the fault input.
1	Class 1 Flt	The drive will shut down immediately
2	Class 2 Flt	The drive will perform a controlled shut down
3	Warning	The drive will not shut down but a warning will be displayed

External Fault 10 Class [Ext flt 10 Class]
Linear Number: 411
Default Value: Class 2 Flt
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the class of the external fault 10. The following options are available:

Value	Enum Text	Description
0	Disable	This disables the fault input.
1	Class 1 Flt	The drive will shut down immediately
2	Class 2 Flt	The drive will perform a controlled shut down
3	Warning	The drive will not shut down but a warning will be displayed

External Fault 11 Class [Ext flt 11 Class]
Linear Number: 412
Default Value: Class 2 Flt
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the class of the external fault 11. The following options are available:

Value	Enum Text	Description
0	Disable	This disables the fault input.
1	Class 1 Flt	The drive will shut down immediately
2	Class 2 Flt	The drive will perform a controlled shut down
3	Warning	The drive will not shut down but a warning will be displayed

External Fault 12 Class [Ext flt 12 Class]
Linear Number: 413
Default Value: Class 2 Flt
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the class of the external fault 12. The following options are available:

Value	Enum Text	Description
0	Disable	This disables the fault input.
1	Class 1 Flt	The drive will shut down immediately
2	Class 2 Flt	The drive will perform a controlled shut down
3	Warning	The drive will not shut down but a warning will be displayed

External Fault 13 Class [Ext flt 13 Class]
Linear Number: 414
Default Value: Class 2 Flt
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the class of the external fault 13. The following options are available:

Value	Enum Text	Description
0	Disable	This disables the fault input.
1	Class 1 Flt	The drive will shut down immediately
2	Class 2 Flt	The drive will perform a controlled shut down
3	Warning	The drive will not shut down but a warning will be displayed

External Fault 14 Class [Ext flt 14 Class]
Linear Number: 415
Default Value: Class 2 Flt
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the class of the external fault 14. The following options are available:

Value	Enum Text	Description
0	Disable	This disables the fault input.
1	Class 1 Flt	The drive will shut down immediately
2	Class 2 Flt	The drive will perform a controlled shut down
3	Warning	The drive will not shut down but a warning will be displayed

External Fault 15 Class [Ext flt 15 Class]
Linear Number: 416
Default Value: Class 2 Flt
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the class of the external fault 15. The following options are available:

Value	Enum Text	Description
0	Disable	This disables the fault input.
1	Class 1 Flt	The drive will shut down immediately
2	Class 2 Flt	The drive will perform a controlled shut down
3	Warning	The drive will not shut down but a warning will be displayed

External Fault 16 Class [Ext flt 16 Class]
Linear Number: 417
Default Value: Class 2 Flt
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the class of the external fault 16. The following options are available:

Value	Enum Text	Description
0	Disable	This disables the fault input.
1	Class 1 Flt	The drive will shut down immediately
2	Class 2 Flt	The drive will perform a controlled shut down
3	Warning	The drive will not shut down but a warning will be displayed

External Fault Mask [Ext Fault Mask]
Linear Number: 564
Default Value: 1111111111111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the masks for the external faults. A one represents enabled fault, a zero represents disabled fault. There are 16 available faults, from External1 to External16. The user can modify the name of each external input.

Bit	Enum Text	Description
0	External1	External Fault Input 1
1	External2	External Fault Input 2
2	External3	External Fault Input 3
3	External4	External Fault Input 4
4	External5	External Fault Input 5
5	External6	External Fault Input 6
6	External7	External Fault Input 7
7	External8	External Fault Input 8
8	External9	External Fault Input 9
9	External10	External Fault Input 10
10	External11	External Fault Input 11
11	External12	External Fault Input 12
12	External13	External Fault Input 13
13	External14	External Fault Input 14
14	External15	External Fault Input 15
15	External16	External Fault Input 16

Fault Mask L1 [Fault Mask L1]
Linear Number: 394
Default Value: 1111111111111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the masks for the first word of the line-side faults. These faults can be either Class 1 or Class 2 faults. A one represents enabled fault, a zero represents disabled fault. The following faults are maskable:

Bit	Enum Text	Description
0	Line OV	Line Overvoltage
1	Mstr Volt UB	Master Bridge Line Voltage Unbalance
2	Slv1 Volt UB	Slave1 Bridge Line Voltage Unbalance
3	Slv2 Volt UB	Slave2 Bridge Line Voltage Unbalance
4	Mstr Cur UB	Master Bridge Line Current Unbalance
5	Slv1 Cur UB	Slave1 Bridge Line Current Unbalance
6	Slv2 Cur UB	Slave2 Bridge Line Current Unbalance
7	Line OC	Line Overcurrent
8	Mtr Heartbt	Motor Heartbeat fault
9	Slv1 Phasing	Slave1 bridge phasing fault
10	Slv2 Phasing	Slave2 bridge phasing fault
11	DC Lnk OC HW	DC Link hardware Overcurrent fault
12	DC Lnk OC SW	DC Link software Overcurrent fault
13	Ln DC Lnk OV	Line DC Link Overvoltage fault
14	Ground OC	Ground Fault Overcurrent fault
15	R Neutral OC	This bit is not used

Fault Mask L2 [Fault Mask L2]
Linear Number: 395
Default Value: 1111111111111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the mask for the second word of the line-side fault. These faults can be either Class 1 or Class 2 faults. A one represents enabled fault, a zero represents disabled fault. The following faults are maskable:

Bit	Enum Text	Description
0	Line HCS Pwr	Line Current Sensor Power Loss
1	Line Cap OV	Line Filter Capacitor Overvoltage fault
2	SCB Incompat	SCB Incompatible
3	Current Sens	Current Sensor Fault
4	Unused	
5	Unused	
6	Unused	
7	Unused	
8	Unused	
9	Unused	
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

Fault Mask L3 [Fault Mask L3]
Linear Number: 396
Default Value: 1111111111111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the mask for the third word of the line-side fault. These faults can be either Class 1 or Class 2 faults. A one represents enabled fault, a zero represents disabled fault. The following faults are maskable:

Bit	Enum Text	Description
0	Drive OL Flt	Drive Overload fault
1	Line Neut OV	Line Neutral to Ground Overvoltage fault
2	Rec HSink OT	Rectifier Heatsink Over Temperature fault
3	Rec ChB OT	Rectifier Channel B Over Temperature fault
4	Dvc AK/Snubb	Device anode-Cathode or Snubber Fault
5	GateTstPwr F	SCR Test Power Harness fault
6	CIB Heartbt	CIB Watchdog fault
7	R HSink FO F	Rectifier Heatsink Fiber Optic Cable
8	Rec ChB FO F	Rectifier Heatsink Channel B Fiber Optic Cable
9	Line Hmnc OV	Line Harmonic Overvoltage Fault
10	R HS Snsr F	Rectifier Heatsink Sensor Disconnected Fault
11	R ChB Snsr F	Rectifier Channel B Sensor Disconnected Fault
12	R Neutral OL	Neutral Resistor Overload
13	RecHS Lo Tmp	Rectifier Heatsink Low Temperature Fault
14	RecChB LoTmp	Rectifier Channel B Low Temperature Fault
15	R Neutral OC	R neutral Over Current

Fault Mask M1 [Fault Mask M1]
Linear Number: 561
Default Value: 1111111111111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the masks for the first word of the motor-side faults. These faults can be either Class 1 or Class 2 faults. A one represents enabled fault, a zero represents disabled fault. The following faults are maskable:

Bit	Enum Text	Description
0	M DC Link OV	Motor DC Link Overvoltage fault
1	DI Contactor	Drive Input contactor fault
2	DO Contactor	Drive Output contactor fault
3	BP Contactor	Drive Bypass contactor fault
4	Motor OC	Motor Overcurrent fault
5	Motor OV Flt	Motor Overvoltage fault
6	Motor Stall	Motor Stall fault
7	Motor Flx UB	Motor Flux Unbalance fault
8	Line Heartbt	Line Heartbeat fault
9	MV Gate Test	Gate Test mode with MV Applied fault
10	MV Sys Test	System test mode with MV Applied fault
11	Inv HCS Pwr	Inverter Current Sensor Power fault
12	DI IsoSwitch	Drive Input Isolation Switch fault
13	DO IsoSwitch	Drive Output Isolation Switch fault
14	BP IsoSwitch	Bypass Isolation Switch fault
15	OP IsoSwitch	System Output Isolation Switch fault

Fault Mask M2 [Fault Mask M2]
Linear Number: 562
Default Value: 1111111111111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the masks for the second word of the motor-side faults. These faults can be either Class 1 or Class 2 faults. A one represents enabled fault, a zero represents disabled fault. The following faults are maskable:

Bit	Enum Text	Description
0	Motor Cur UB	Motor Current Unbalance fault
1	OP Contactor	Output Contactor fault
2	Field Loss	Loss of Field Current – Synchronous Motors
3	Open Cct UV	Under Voltage during Open circuit test mode
4	No DO/OP Flt	No Output Contactors in Open Circuit Test Mode
5	I HS Snsr F	Inverter Heatsink Sensor Disconnected Fault
6	I ChB Snsr F	Inverter Channel B Sensor Disconnected Fault
7	InvHS LoTemp	Inverter Heatsink Low Temperature Fault
8	InvChBLoTemp	Inverter Channel B Low Temperature Fault
9	Tach Loss F	Tach Loss Fault
10	Output Open	Do or OP open fault
11	Mtr Cap OV	Motor Filter Capacitor Over Voltage – ESP application drive
12	Unused	
13	Mstr Xfr Err	Master Transfer Error – Parallel Drive application
14	PD Capcty Lo	Parallel Drive capacity low
15	Unused	

Fault Mask M3 [Fault Mask M3]
Linear Number: 563
Default Value: 1111111111111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the masks for the third word of the motor-side faults. These faults can be either Class 1 or Class 2 faults. A one represents enabled fault, a zero represents disabled fault. The following faults are maskable:

Bit	Enum Text	Description
0	Motor OL Flt	Motor Overload fault
1	Motor Ovrspd	Motor Overspeed fault
2	Mtr Neut OV	Motor Neutral to ground Overvoltage fault
3	Capab Limit	Motor current exceeded safe level determined by the Capability Curve
4	I HSink OT F	Inverter Heatsink Overtemperature fault
5	I ChB OT F	Inverter Channel B Overtemperature fault
6	IsTxAirFltrF	Isolation Transformer Air Pressure Fault (A-Frame only)
7	Unused	
8	AirFilterFlt	Air filter blockage fault
9	Mtr LdLoss F	Motor Load Loss fault
10	SyncXfer Flt	Synchronous Transfer fault
11	I HSink FO F	Inverter Heatsink Fiber Optic Cable Fault
12	I ChB FO F	Inverter Channel B Fiber Optic Cable Fault
13	Unused	
14	Unused	
15	Unused	

Warning Mask L1 [Warning Mask L1]
Linear Number: 397
Default Value: 1111111111111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the masks for the first word of the line-side warnings (Class 3 Faults). A one represents enabled warning, a zero represents disabled warning. The following warnings are maskable:

Bit	Enum Text	Description
0	Drive OL Wrn	Drive Overload warning
1	Master UV	Master Bridge Under Voltage warning
2	Slave1 UV	Slave1 Bridge Under Voltage warning
3	Slave2 UV	Slave2 Bridge Under Voltage warning
4	DC Link OC	DC Link Over Current warning
5	L DC Link OV	Line DC Link Over Voltage warning
6	No PLL Lock	Line side Phase Lock Loop not synchronized
7	DICtctr Fdbk	Drive Input Contactor Feedback Status Loss with MV present
8	GateTstPwr W	SCR harness plugged in
9	Line Loss	Loss of medium voltage or loss of medium voltage frequency
10	Rec HSink OT	Rectifier Heatsink Over Temperature warning
11	Rec ChB OT	Rectifier Channel B Over Temperature warning
12	Bus Trans'nt	Bus Transient Protection
13	LneCap Range	Line Filter Capacitor pu value outside normal range
14	Unused	
15	DC Link Rnge	DC Link pu value outside normal range

Warning Mask L2 [Warning Mask L2]
Linear Number: 647
Default Value: 1111111111111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the masks for the second word of the line-side warnings (Class 3 Faults). A one represents enabled warning, a zero represents disabled warning. These are currently unused, but are available for future use.

Bit	Enum Text	Description
0	BussFlt Line	Line DCB Data Buss fault
1	R HS Snsr W	Rectifier Heatsink sensor Loss Warning
2	R ChB Snsr W	Rectifier Channel B sensor Loss Warning
3	R HSink FO W	Rectifier Heatsink Fiber Optic Loss Warning
4	R ChB FO W	Rectifier Channel B Fiber Optic Loss Warning
5	Rec Gate Pwr	Rect Gate Power Supply Warning
6	Unused	
7	Unused	
8	Unused	
9	Unused	
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

Warning Mask M1 [Warning Mask M1]
Linear Number: 565
Default Value: 1111111111111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the masks for the first word of the motor-side warnings (Class 3 Faults). A one represents enabled warning, a zero represents disabled warning. The following warnings are maskable:

Bit	Enum Text	Description
0	Motor OL Wrn	Motor Overload warning
1	DICtctr Open	Input Contactor Open warning
2	DICtctr Clsd	Input Contactor Closed warning
3	DOCtctr Open	Output Contactor Open warning
4	DOCtctr Clsd	Output Contactor Closed warning
5	Fan1 Contctr	Fan 1 Contactor Feedback Loss warning
6	MtrCap Range	Motor Filter Capacitor pu value outside normal range
7	I HSink OT W	Inverter Heatsink Overtemperature warning
8	I ChB OT W	Inverter Channel B Overtemperature warning
9	IsTxAirFltrW	Isolation Transformer Air Pressure warning (A-Frame only)
10	Unused	
11	Zero Slip	Zero Slip warning
12	AirFilterWrn	Air Filter Blockage warning
13	Fan On	Main Fan On warning
14	Fan 1 Loss	Main cooling Fan 1 Loss warning
15	Fan 2 Loss	Main cooling Fan 2 Loss warning

Warning Mask M2 [Warning Mask M2]
Linear Number: 423
Default Value: 1111111111111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the masks for the second word of the motor-side warnings (Class 3 Faults). A one represents enabled warning, a zero represents disabled warning. The following warnings are maskable:

Bit	Enum Text	Description
0	Tach Loss	Tachometer Feedback loss warning
1	Tach Reversd	Tachometer Feedback Reversed warning
2	Tach Power	Tachometer Power loss warning
3	No Tach	No Tachometer Installed warning
4	BPCtctr Open	Bypass Contactor Open warning
5	BPCtctr Clsd	Bypass Contactor Closed warning
6	Inp Clse Dly	Input Contactor Close Delay is Timing
7	SyncXfer Wrn	Synchronous Transfer warning
8	Mtr Ldloss W	Motor Load Loss warning
9	DI Iso Open	Drive Input Isolation Switch Open warning
10	DO Iso Open	Drive Output Isolation Switch Open warning
11	BP Iso Open	Bypass Isolation Switch Open warning
12	OP Iso Open	System Output Isolation Switch Open warning
13	OPCtctr Open	System Output Contactor Open warning
14	OPCtctr Clsd	System Output Contactor Closed warning
15	Desync Delay	Premature attempt to desync the system – Desync Timer still Active

Warning Mask M3 [Warning Mask M3]
Linear Number: 468
Default Value: 1111111111111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the masks for the third word of the motor-side warnings (Class 3 Faults). A one represents enabled warning, a zero represents disabled warning. The following warnings are maskable:

Bit	Enum Text	Description
0	Bypass OV	Bypass Overvoltage
1	Bypass UV	Bypass Undervoltage
2	Bypass UB	Bypass Voltage Unbalance
3	Bypass Rvs	Bypass Voltage Reverse Sequence
4	Unused	
5	Slip Range	The calculated slip is too high or at zero for Induction Motors.
6	No DO/OP Wrn	Open Circuit Test Mode – No contactor on output and fault masked
7	Ctrl Pwr Lss	Loss of LV Control Power
8	Mtr DCLnk OV	Motor DC Link Overvoltage warning
9	Motor OV Wrn	Motor Overvoltage warning
10	Buss Flt Mtr	Not Active – Troubleshooting Tool
11	I HS Snsr W	Inverter Heatsink Sensor Loss warning
12	I ChB Snsr W	Inverter Channel B Sensor Loss warning
13	I HSink FO W	Inverter Heatsink Fiber Optic Loss warning
14	I ChB FO W	Inverter Channel B Fiber Optic Loss warning
15	Fan2 Contctr	Fan 2 Contactor Feedback Loss warning

Warning Mask M4 [Warning Mask M4]
Linear Number: 707
Default Value: 1111111111111111
Access Level: Basic
Read/Write: Read/Write

The parameter specifies the masks for the fourth word of the motor-side warnings (Class 3 Faults). A one represents an enabled warning, a zero represents a disabled warning. The following warnings are maskable:

Bit	Enum Text	Description
0	DI Iso Closd	Drive Input Isolation Switch Closed warning
1	DO Iso Clsd	Drive Output Isolation Switch Closed warning
2	BP Iso Clsd	Bypass Isolation Switch Closed warning
3	OP Iso Clsd	System Output Isolation Switch Closed warning
4	IsoTx Fan On	Isolation Transformer Fan ON
5	Iso Fn1 Cntr	Isolation Transformer Fan 1 Contactor
6	Iso Fn2 Cntr	Isolation Transformer Fan 2 Contactor
7	Iso Fn1 Loss	Isolation Transformer Fan 1 Loss
8	Iso Fn2 Loss	Isolation Transformer Fan 2 Loss
9	Inv Gate Pwr	Inverter Gate Power Supply
10	Mtr Cap OV W	Motor Filter cap OV Warning
11	Rec 5Pulse	Rectifier operating in 5 pulse mode
12	MaxDrvCapab	The motor current limited to the safe level of drive thermal protection
13	Unused	
14	Unused	
15	Unused	

Warning Mask PD [Warning Mask PD]
Linear Number: 759
Default Value: 1111111111111111
Access Level: Service
Read/Write: Read/Write

These are the parallel drive warning Mask.

Bit	Enum Text	Description
0	Hub Comm Wrn	Hub (PLC) Communications Loss
1	Duplcte Mstr	Duplicate Master-master only
2	Dclnd Mstr	Slave Declined Master-slave only
3	Slv RfsdMstr	Slave Refused Master-master only
4	Invld Mstr R	Invalid Master Request-slave only
5	Unused	
6	Unused	
7	Unused	
8	Slave 0 Comm	Slave 0 DAN Communications Loss-master only
9	Slave 1 Comm	Slave 1 DAN Communications Loss-master only
10	Slave 2 Comm	Slave 2 DAN Communications Loss-master only
11	Slave 3 Comm	Slave 3 DAN Communications Loss-master only
12	Slave 4 Comm	Slave 4 DAN Communications Loss-master only
13	Slave 5 Comm	Slave 5 DAN Communications Loss-master only
14	Slave 6 Comm	Slave 6 DAN Communications Loss-master only
15	Slave 7 Comm	Slave 7 DAN Communications Loss-master only

Power Fault Mask [Power Fault Mask]
Linear Number: 104
Default Value: 1111111111111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the masks for the various components in the control power system. The following faults are maskable:

Bit	Enum Text	Description
0	AC/DC#1 Flt	First AC/DC supply module failure
1	AC/DC#2 Flt	Second AC/DC supply module failure
2	AC/DC#3 Flt	Third AC/DC supply module failure
3	AC/DC#4 Flt	Fourth AC/DC supply module failure
4	AC/DC#5 Flt	Fifth AC/DC supply module failure
5	AC/DC#6 Flt	Sixth AC/DC supply module failure
6	DC/DC Rd Flt	Loss of Non-Redundant 5V / ±15 V (there has already been a warning)
7	ACFailH/WFlt	AC Fail hardware fault
8	Unused	
9	Unused	
10	AC300 DC Flt	DC power loss for 300 W DC/DC module
11	Unused	
12	DC/DC Fail	Loss of DC/DC module
13	Unused	
14	Unused	
15	Unused	

Power Warning Mask [Power Warn Mask]
Linear Number: 105
Default Value: 1111111111111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the masks for the various components in the control power system. The following faults are maskable:

Bit	Enum Text	Description
0	AC/DC#1 Wrn	First AC/DC supply module failure
1	AC/DC#2 Wrn	Second AC/DC supply module failure
2	AC/DC#3 Wrn	Third AC/DC supply module failure
3	AC/DC#4 Wrn	Fourth AC/DC supply module failure
4	AC/DC#5 Wrn	Fifth AC/DC supply module failure
5	AC/DC#6 Wrn	Sixth AC/DC supply module failure
6	DC/DC Rd Wrn	Loss of Redundant 5V / ±15 V (one of the two parallel outputs has failed)
7	AC/DC ACFail	Input of AC/DC power supply has detected a loss of voltage
8	AC300 ACFail	Input of AC300W power supply has detected a loss of voltage
9	UPS on Bypss	UPS running on bypass
10	UPS on Batt	UPS running on battery
11	UPS Batt Low	UPS battery low
12	UPS Failed	UPS has an internal failure
13	XIO Pwr Loss	XIO power loss
14	DPI Pwr Loss	DPI power loss
15	USART Pwr Ls	USART power loss

Adapter Fault Mask [Adptr Loss Mask]
Linear Number: 175
Default Value: 0000000000000000
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the masks for the drive detection of individual adapter losses. The default value for this parameter enables a Class 2 fault or an adapter loss. Changing the corresponding bit to 0 will change the drive response to a warning condition.

Bit	Enum Text	Description
0	Adapter 1 Ls	Adapter 1
1	Adapter 2 Ls	Adapter 2
2	Adapter 3 Ls	Adapter 3
3	Adapter 4 Ls	Adapter 4
4	Adapter 5 Ls	Adapter 5
5	Adapter 6 Ls	Adapter 6
6	Unused	
7	Unused	
8	Spd Cmd Loss	Not used in 5.xxx firmware
9	Unused	
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

Speed Cmd Loss [Speed Cmd Loss]
Linear Number: 749
Default Value: Fault
Access Level: Basic
Read/Write: Read/Write

Added new feature for option of loss of speed command from either a DPI adapter or 4-20ma current loop. By use of the parameter P749 (***Spd Cmd Loss***), the customer can now have the option of FAULTING, RUN @ LAST SPEED, or RUN @ PRESET 1. To get speed command loss warning set this parameter to Last Speed.

Value	Enum Text	Description
0	Fault	Fault
1	Last Speed	Last Speed
2	Preset 1	Preset Speed 1

Liquid Cooled Fault Mask [Liq Cool Mask]
Linear Number: 703
Default Value: 1111111111111111
Access Level: Basic
Read/Write: Read/Write

This parameter represents the faults that can be masked in the PowerFlex C-Frame drive. These are typically masked only in a sensor failure condition, as opposed to a true fault. The following faults are maskable:

Bit	Enum Text	Description
0	Unused	
1	Ext Cool Ls	Loss of External Cooling (Heat Exchanger Failure)
2	Cool Temp Lo	Coolant Temperature Low
3	Cool Temp Hi	Coolant Temperature High
4	Unused	
5	Cool Lvl Lo	Coolant Level Low
6	Cab Temp Hi	Cabinet Temperature High
7	Pump/Fan Pwr	Pump and Fan Power Off
8	DC Link Flow	DC Link Flow
9	Temp Fdbk Ls	Loss of Coolant Temperature Feedback
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

Device Fault Mask [Dvc Flt Mask]
Linear Number: 420
Default Value: 1111111111111111
Access Level: Service
Read/Write: Read/Write

This parameter specifies the masks for the device diagnostic faults (SCR and SGCT). A one represents enabled fault, a zero represents disabled fault. The bit definition is as follows:

Bit	Enum Text	Description
0	L Offline OC	SCR Rectifier – Diagnostic, Open Circuit Detection (before running)
1	L Offline SC	SCR Rectifier – Diagnostic, Short Circuit Detection (before running)
2	L Online OC	SCR Rectifier – Running, Open Circuit Detection
3	L Online SC	SCR Rectifier – Running, Short Circuit Detection
4	L Gate Loss	PWM Rectifier – Diagnostic, Gate Fiber Optic Loss (before running)
5	L Fbk Loss	PWM Rectifier – Diagnostic, Feedback Fiber Optic Loss (before running)
6	L Device Flt	PWM Rectifier – Diagnostic, Gate-Cathode Short/Power Supply Loss (before running)
7	L Online Flt	PWM Rectifier – Running Gate/Cathode Short, Power Supply Loss or fiber optic loss
8	M Gate Loss	Inverter – Diagnostic, Gate Fiber Optic Loss (before running)
9	M Fbk Loss	Inverter – Diagnostic, Feedback Fiber Optic Loss (before running)
10	M Device Flt	Inverter – Diagnostic, Gate-Cathode Short/Power Supply Loss (before running)
11	M Online Flt	Inverter – Running Gate/Cathode Short, Power Supply Loss or fiber optic loss
12	Unused	
13	Unused	
14	Unused	
15	Unused	

Faults Parameters

Fixed Fault [Fixed Fault]
Linear Number: 433
Access Level: Service
Read/Write: Read Only

This parameter specifies those inputs on the standard XIO card, which have been configured as faults (Class 1 or Class 2). A one represents an active fault as follows:

Bit	Enum Text	Description
0	Input Protn1	Input Protection 1 fault
1	Xfmr/LR OT	Isolation Transformer/Line Reactor Overtemperature fault
2	DC Link OT	DC Link / Common-Mode Choke Overtemperature fault
3	Motor Prot'n	Motor Protection fault
4	Unused	
5	Input Protn2	Input Protection 2 fault
6	Aux Prot'n	Auxiliary Protection fault
7	Unused	

Fixed Warning [Fixed Warning]
Linear Number: 434
Access Level: Service
Read/Write: Read Only

This parameter specifies those inputs on the standard XIO card, which have been configured as warnings. A one represents an active warning as follows:

Bit	Enum Text	Description
0	Input Protn1	Input Protection 1 warning
1	Xfmr/LR OT	Isolation Transformer/Line Reactor Overtemperature warning
2	DC Link OT	DC Link / Common-Mode Choke Overtemperature warning
3	Motor Prot'n	Motor Protection warning
4	Unused	
5	Input Protn2	Input Protection 2 warning
6	Aux Prot'n	Auxiliary Protection warning
7	Unused	

External Fault XIO [External Fault]
Linear Number: 372
Access Level: Service
Read/Write: Read Only

This parameter specifies those inputs on the optional XIO card, which have been configured as faults (Class1 or Class2). A one indicates an active fault on the card. There are a total of 16 external faults from External1 to External16. The user can modify the text associated with each fault.

External Warning [External Warning]
Linear Number: 429
Access Level: Service
Read/Write: Read Only

This parameter specifies those inputs on the optional XIO card, which have been configured as warnings. A one indicates an active warning on the card. There are a total of 16 external warnings from External1 to External16. The user can modify the text associated with each warning.

Fault Flag L1 [Fault Flag L1]
Linear Number: 279
Access Level: Service
Read/Write: Read Only

This parameter specifies the first word of the line-side fault flag. These faults can be either Class 1 or Class 2 faults. A one represents an active fault as follows:

Bit	Enum Text	Description
0	Line OV	Line Overvoltage
1	Mstr Volt UB	Master Bridge Line Voltage Unbalance
2	Slv1 Volt UB	Slave1 Bridge Line Voltage Unbalance
3	Slv2 Volt UB	Slave2 Bridge Line Voltage Unbalance
4	Mstr Cur UB	Master Bridge Line Current Unbalance
5	Slv1 Cur UB	Slave1 Bridge Line Current Unbalance
6	Slv2 Cur UB	Slave2 Bridge Line Current Unbalance
7	Line OC	Line Overcurrent
8	Mtr Heartbt	Motor Heartbeat fault
9	Slv1 Phasing	Slave1 bridge phasing fault
10	Slv2 Phasing	Slave2 bridge phasing fault
11	DC Lnk OC HW	DC Link hardware Overcurrent fault
12	DC Lnk OC SW	DC Link software Overcurrent fault
13	Ln DC Lnk OV	Line DC Link Overvoltage fault
14	Ground OC	Ground Fault Overcurrent fault
15	LineCap Fail	Line Capacitor Failure Fault

Fault Flag L2 [Fault Flag L2]
Linear Number: 280
Access Level: Service
Read/Write: Read Only

This parameter specifies the second word of the line-side fault flag. These faults can be either Class 1 or Class 2 faults. A one represents an active fault as follows:

Bit	Enum Text	Description
0	Line HCS Pwr	Line Current Sensor Power Loss
1	Line Cap OV	Line Filter Capacitor Overvoltage fault
2	SCB Incompat	Line SCB InCompatible
3	Current Sens	Current Sensor fault
4	DrvInp Short	Fault due to Drive Input Short (including Line cap and Rect devices)
5	Unused	
6	Unused	
7	Unused	
8	Unused	
9	Unused	
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

Fault Flag L3 [Fault Flag L3]
Linear Number: 281
Access Level: Service
Read/Write: Read Only

This parameter specifies the third word of the line-side fault flag. These can be either Class 1 or Class 2 faults. A one represents an active fault as follows:

Bit	Enum Text	Description
0	Drive OL Flt	Drive Overload fault
1	Line Neut OV	Line Neutral to Ground Overvoltage fault
2	Rec HSink OT	Rectifier Heatsink Over Temperature fault
3	Rec ChB OT	Rectifier Channel B Over Temperature fault
4	Dvc AK/Snubb	Device Anode Cathode or Snubber fault
5	GateTstPwr F	SCR Test Power Harness fault
6	CIB Heartbt	CIB Watchdog fault
7	R HSink FO F	Rectifier Heatsink Fiber Optic Cable
8	Rec ChB FO F	Rectifier Heatsink Channel B Fiber Optic Cable
9	Line Hmnc OV	Line Harmonic Overvoltage Fault
10	R HS Snsr F	Rectifier Heatsink Sensor Disconnected Fault
11	R ChB Snsr F	Rectifier Channel B Sensor Disconnected Fault
12	R Neutral OL	Neutral Resistor Overload
13	RecHS Lo Tmp	Rectifier Heatsink Low Temperature Fault
14	RecChB LoTmp	Rectifier Channel B Low Temperature Fault
15	R Neutral OC	R Neutral Over Current

Fault Flag M1 [Fault Flag M1]
Linear Number: 369
Access Level: Service
Read/Write: Read Only

This parameter specifies the first word of the motor-side fault flag. These faults can be either Class 1 or Class 2 faults. A one represents an active fault as follows:

Bit	Enum Text	Description
0	M DC Link OV	Motor DC Link Overvoltage fault
1	DI Contactor	Drive Input contactor fault
2	DO Contactor	Drive Output contactor fault
3	BP Contactor	Drive Bypass contactor fault
4	Motor OC	Motor Overcurrent fault
5	Motor OV Flt	Motor Overvoltage fault
6	Motor Stall	Motor Stall fault
7	Motor Flx UB	Motor Flux Unbalance fault
8	Line Heartbt	Line Heartbeat fault
9	MV Gate Test	Gate Test mode with MV Applied fault
10	MV Sys Test	System test mode with MV Applied fault
11	Inv HCS Pwr	Inverter Current Sensor Power fault
12	DI IsoSwitch	Drive Input Isolation Switch fault
13	DO IsoSwitch	Drive Output Isolation Switch fault
14	BP IsoSwitch	Bypass Isolation Switch fault
15	OP IsoSwitch	System Output Isolation Switch fault

Fault Flag M2 [Fault Flag M2]
Linear Number: 370
Access Level: Service
Read/Write: Read Only

This parameter specifies the second word of the motor-side fault flag. These faults can be either Class 1 or Class 2 faults. A one represents an active fault as follows:

Bit	Enum Text	Description
0	Motor Cur UB	Motor Current Unbalance fault
1	OP Contactor	Output Contactor fault
2	Field Loss	Loss of Field Current – Synchronous Motors
3	Open Cct UV	Under Voltage during open circuit test mode
4	No DO/OP Flt	No Output Contactors in Open Circuit Test Mode
5	I HS Snsr F	Inverter Heatsink Sensor Disconnected Fault
6	I ChB Snsr F	Inverter Channel B Sensor Disconnected Fault
7	InvHS LoTemp	Inverter Heatsink Low Temperature Fault
8	InvChBLoTemp	Inverter Channel B low Temperature??
9	Tach Loss F	Tach Loss Fault
10	Output Open	DO or OP Output Open
11	Mtr Cap OV	Motor filter capacitor Over Voltage
12	DAN Comm	Drive Area Network Communication fault – Parallel drive application
13	Mstr Xfr Err	Master Transfer Error – Parallel Drive application
14	Unused	
15	Unused	

Fault Flag M3 [Fault Flag M3]
Linear Number: 371
Access Level: Service
Read/Write: Read Only

This parameter specifies the third word of the motor-side fault flag. These faults can be either Class 1 or Class 2 faults. A one represents an active fault as follows:

Bit	Enum Text	Description
0	Motor OL Flt	Motor Overload fault
1	Motor Ovrspd	Motor Overspeed fault
2	Mtr Neut OV	Motor Neutral to ground Overvoltage fault
3	Capab Limit	The motor current limited to the safe level of drive thermal protection
4	I HSink OT F	Inverter Heatsink Overtemperature fault
5	I ChB OT F	Inverter Channel B Overtemperature fault
6	IsTxAirFltrF	Isolation Transformer Air Pressure Fault (A-Frame only)
7	Unused	
8	AirFilterFlt	Air filter blockage fault
9	Mtr LdLoss F	Motor Load Loss fault
10	SyncXfer Flt	Synchronous Transfer fault
11	I HSink FO F	Inverter Heatsink Fiber Optic Cable Fault
12	I ChB FO F	Inverter Channel B Fiber Optic Cable Fault
13	Unused	
14	Unused	
15	Unused	

CIB Fault Flag [Fault Flag CIB]
Linear Number: 57
Access Level: Service
Read/Write: Read Only

This parameter specifies the CIB fault flag. A one represents an active fault as follows:

Bit	Enum Text	Description
0	Time Base	FPGA free running timer failure
1	A/Ds	A/D subsystem general fault
2	J7 Port	Operator Interfact Port UART failure
3	J8 Port	Printer Port UART failure
4	DPI Intrfce	SCANport/DPI hardware failure on CIB
5	XIO Intrfce	XIO hardware failure on CIB
6	Gnd Offset	Analog to Digital Gnd offset failure
7	Unused	
8	Unused	
9	Unused	
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

Warning Flag L1 [Warning Flag L1]
Linear Number: 282
Access Level: Service
Read/Write: Read Only

This parameter specifies the first word of the line-side warning flag (Class 3 Faults). A one represents an active line-side warning. The following warning messages are displayed:

Bit	Enum Text	Description
0	Drive OL Wrn	Drive Overload warning
1	Master UV	Master Bridge Under Voltage warning
2	Slave1 UV	Slave1 Bridge Under Voltage warning
3	Slave2 UV	Slave2 Bridge Under Voltage warning
4	DC Link OC	DC Link Over Current warning
5	L DC Link OV	Line DC Link Over Voltage warning
6	No PLL Lock	Line side Phase Lock Loop not synchronized
7	DICtctr Fdbk	Drive Input Contactor Feedback Status Loss with MV present
8	GateTstPwr W	SCR harness plugged in
9	Line Loss	Loss of medium voltage or loss of medium voltage frequency
10	Rec HSink OT	Rectifier Heatsink Over Temperature warning
11	Rec ChB OT	Rectifier Channel B Over Temperature warning
12	Bus Trans'nt	Bus Transient Protection
13	LneCap Range	Line Filter Capacitor pu value outside normal range
14	Dvc AK/Snubb	Device anode cathode or snubber Warning
15	DC Link Rnge	DC Link pu value outside normal range

Warning Flag L2 [Warning Flag L2]
Linear Number: 646
Access Level: Service
Read/Write: Read Only

This parameter specifies the second word of the line-side warning flag (Class 3 Faults). A one represents an active line-side warning. These are currently all unused, but available for future use.

Bit	Enum Text	Description
0	BussFlt Line	Line DCB data Buss Warning
1	R HS Snsr W	Rectifier Heatsink temperature Sensor Loss Warning
2	R ChB Snsr W	Rectifier Channel B sensor Loss Warning
3	R HSink FO W	Rectifier Heatsink Fiber Optic Loss Warning
4	R ChB FO W	Rectifier Channel B Fiber Optic Loss Warning
5	Rec Gate Pwr	Rectifier Gate Power Warning
6	unused 06	-
7	unused 07	-
8	unused 08	-
9	unused 09	-
10	unused 10	-
11	unused 11	-
12	unused 12	-
13	unused 13	-
14	unused 14	-
15	unused 15	-

Warning Flag M1 [Warning Flag M1]
Linear Number: 373
Access Level: Service
Read/Write: Read Only

This parameter specifies the first word for the motor-side warning flag (Class 3 Faults). A one represents an active motor-side warning. The following warnings are displayed:

Bit	Enum Text	Description
0	Motor OL Wrn	Motor Overload warning
1	DICtctr Open	Input Contactor Open warning
2	DICtctr Clsd	Input Contactor Closed warning
3	DOCtctr Open	Output Contactor Open warning
4	DOCtctr Clsd	Output Contactor Closed warning
5	Fan1 Contctr	Fan 1 Contactor Feedback Loss warning
6	MtrCap Range	Motor Filter Capacitor pu value outside normal range
7	I HSink OT W	Inverter Heatsink Overtemperature warning
8	I ChB OT W	Inverter Channel B Overtemperature warning
9	IsTxAirFltrW	Isolation Transformer Air Pressure warning (A-Frame only)
10	Unused	
11	Zero Slip	Zero Slip warning
12	AirFilterWrn	Air Filter Blockage warning
13	Fan On	Main Fan On warning
14	Fan 1 Loss	Fan 1 Loss warning
15	Fan 2 Loss	Fan 2 Loss warning

Warning Flag M2 [Warning Flag M2]
Linear Number: 374
Access Level: Service
Read/Write: Read Only

This parameter specifies the second word of the motor-side warning flag (Class 3 Faults). A one represents an active motor-side warning. The following warnings are displayed:

Bit	Enum Text	Description
0	Tach Loss W	Tachometer Feedback loss warning
1	Tach Reversd	Tachometer Feedback Reversed warning
2	Tach Power	Tachometer Power loss warning
3	No Tach	No Tachometer Installed warning
4	BPCtctr Open	Bypass Contactor Open warning
5	BPCtctr Clsd	Bypass Contactor Closed warning
6	Inp Clse Dly	Input Contactor Open warning
7	SyncXfer Wrn	Synchronous Transfer warning
8	Mtr Ldloss W	Motor Load Loss warning
9	DI Iso Open	Drive Input Isolation Switch Open warning
10	DO Iso Open	Drive Output Isolation Switch Open warning
11	BP Iso Open	Bypass Isolation Switch Open warning
12	OP Iso Open	System Output Isolation Switch Open warning
13	OPCtctr Open	System Output Contactor Open warning
14	OPCtctr Clsd	System Output Contactor Closed warning
15	Desync Delay	Premature attempt to desync the system – Desync Timer still Active

Warning Flag M3 [Warning Flag M3]
Linear Number: 467
Access Level: Service
Read/Write: Read Only

This parameter specifies the third word of the motor-side warning flags (Class 3 Faults). A one represents an active warning. The following warnings are displayed:

Bit	Enum Text	Description
0	Bypass OV	Bypass Overvoltage
1	Bypass UV	Bypass Undervoltage
2	Bypass UB	Bypass Voltage Unbalance
3	Bypass Rvs	Bypass Voltage Reverse Sequence
4	DCBM BattLow	-
5	Slip Range	The calculated slip is too high or at zero for Induction Motors.
6	No DO/OP Wrn	Open Circuit Test Mode – No contactor on output and fault masked
7	Ctrl Pwr Lss	Loss of LV Control Power
8	Mtr DCLnk OV	Motor DC Link Overvoltage warning
9	Motor OV Wrn	Motor Overvoltage warning
10	Buss Flt Mtr	Not Active – Development Tool
11	I HS Snsr W	Inverter Heatsink Sensor Loss warning
12	I ChB Snsr W	Inverter Channel B Sensor Loss warning
13	I HSink FO W	Inverter Heatsink Fiber Optic Loss warning
14	I ChB FO W	Inverter Channel B Fiber Optic Loss warning
15	Fan2 Contctr	Fan 2 Contactor Feedback Loss warning

Warning Flag M4 [Warning Flag M4]
Linear Number: 706
Access Level: Service
Read/Write: Read Only

This parameter specifies the third word of the motor-side warning flags (Class 3 Faults). A one represents an active warning. The following warnings are displayed:

Bit	Enum Text	Description
0	DI Iso Closd	Drive Input Isolation Switch Closed warning
1	DO Iso Clsd	Drive Output Isolation Switch Closed warning
2	BP Iso Clsd	Bypass Isolation Switch Closed warning
3	OP Iso Clsd	System Output Isolation Switch Closed warning
4	IxoTx Fan On	Isolation Transformer Fan ON
5	Iso Fn1 Cntr	Isolation Transformer Fan 1 Contactor
6	Iso Fn2 Cntr	Isolation Transformer Fan 2 Contactor
7	Iso Fn1 Loss	Isolation Transformer Fan 1 Loss
8	Iso Fn2 Loss	Isolation Transformer Fan 2 Loss
9	Inv Gate Pwr	Inverter Gate Power Supply
10	Mtr Cap OV W	Motor Filter cap OV Warning
11	Rec 5Pulse	Rectifier operating in 5 pulse mode
12	MaxDrvCapab	The motor current limited to the safe level of drive thermal protection
13	Unused	
14	Unused	
15	Unused	

Warning Flag PD [Warning Flag PD]
Linear Number: 758
Access Level: Service
Read/Write: Read Only

These are the parallel drive warning flags.

Bit	Enum Text	Description
0	Hub Comm Wrn	Hub (PLC) Communications Loss
1	Duplcte Mstr	Duplicate Master-master only
2	Dclnd Mstr	Slave Declined Master-slave only
3	Slv RfsdMstr	Slave Refused Master-master only
4	Invld Mstr R	Invalid Master Request-slave only
5	Xfer Disable	Transfer Disabled-master only
6	Unused	
7	Unused	
8	Slave 0 Comm	Slave 0 DAN Communications Loss-master only
9	Slave 1 Comm	Slave 1 DAN Communications Loss-master only
10	Slave 2 Comm	Slave 2 DAN Communications Loss-master only
11	Slave 3 Comm	Slave 3 DAN Communications Loss-master only
12	Slave 4 Comm	Slave 4 DAN Communications Loss-master only
13	Slave 5 Comm	Slave 5 DAN Communications Loss-master only
14	Slave 6 Comm	Slave 6 DAN Communications Loss-master only
15	Slave 7 Comm	Slave 7 DAN Communications Loss-master only

CIB Warning Flag [Warning Flag CIB]
Linear Number: 56
Access Level: Service
Read/Write: Read Only

This parameter specifies the warning flag used by the CIB. A one represents an active warning, and is bit encoded as follows:

Bit	Enum Text	Description
0	CIB Batt Low	Indicates a low NVRAM battery
1	Unused	
2	Unused	
3	Unused	
4	Unused	
5	Unused	
6	Unused	
7	Unused	
8	Unused	
9	Unused	
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

Control Power Fault [Ctrl Pwr Fault]
Linear Number: 287
Access Level: Service
Read/Write: Read Only

This parameter is associated with the control power distribution system. The CIB monitors the power signals, and a one represents an active fault as follows:

Bit	Enum Text	Description
0	AC/DC#1 Flt	First AC/DC supply module failure
1	AC/DC#2 Flt	Second AC/DC supply module failure
2	AC/DC#3 Flt	Third AC/DC supply module failure
3	AC/DC#4 Flt	Fourth AC/DC supply module failure
4	AC/DC#5 Flt	Fifth AC/DC supply module failure
5	AC/DC#6 Flt	Sixth AC/DC supply module failure
6	DC/DC Rd Flt	Loss of Non-Redundant 5V / ±15 V (there has already been a warning)
7	ACFailH/WFlt	AC Fail hardware fault
8	Unused	
9	Unused	
10	AC300 DC Flt	DC power loss for 300 W DC/DC module
11	Unused	
12	DC/DC Fail	Loss of DC/DC module
13	Unused	
14	Unused	
15	Unused	

Control Power Warning [Ctrl Pwr Warning]
Linear Number: 288
Access Level: Service
Read/Write: Read Only

This parameter is associated with the control power distribution system. The CIB monitors the power signals, and a one represents an active warning as follows:

Bit	Enum Text	Description
0	AC/DC#1 Wrn	First AC/DC supply module failure
1	AC/DC#2 Wrn	Second AC/DC supply module failure
2	AC/DC#3 Wrn	Third AC/DC supply module failure
3	AC/DC#4 Wrn	Fourth AC/DC supply module failure
4	AC/DC#5 Wrn	Fifth AC/DC supply module failure
5	AC/DC#6 Wrn	Sixth AC/DC supply module failure
6	DC/DC Rd Wrn	Loss of Redundant 5V / ±15 V (one of the two parallel outputs has failed)
7	AC/DC ACFail	Input of AC/DC power supply has detected a loss of voltage
8	AC300 ACFail	Input of AC300W power supply has detected a loss of voltage
9	UPS on Bypss	UPS running on bypass
10	UPS on Batt	UPS running on battery
11	UPS Batt Low	UPS battery low
12	UPS Failed	UPS has an internal failure
13	XIO Pwr Loss	XIO power loss
14	DPI Pwr Loss	DPI power loss
15	USART Pwr Ls	USART power loss

Adapter Loss Fault [Adapter Loss Flt]
Linear Number: 93
Access Level: Service
Read/Write: Read Only

This parameter specifies the SCANport adapter loss fault. SCANport is a polled communication network and if that link is lost, the associated fault will occur. A one represents an active fault.

Bit	Enum Text	Description
0	Adapter 1	Adapter 1 Loss
1	Adapter 2	Adapter 2 Loss
2	Adapter 3	Adapter 3 Loss
3	Adapter 4	Adapter 4 Loss
4	Adapter 5	Adapter 5 Loss
5	Adapter 6	Adapter 6 Loss
6	Unused	
7	Unused	
8	Spd Cmd Loss	Speed Command Loss
9	Unused	
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

Adapter Loss Warning [Adapter Loss Wrn]
Linear Number: 148
Access Level: Service
Read/Write: Read Only

This parameter specifies the SCANport adapter loss warning. SCANport is a polled communication network and if that link is lost, the associated warning will occur. A one represents an active warning.

Bit	Enum Text	Description
0	Adapter 1	Adapter 1 Loss
1	Adapter 2	Adapter 2 Loss
2	Adapter 3	Adapter 3 Loss
3	Adapter 4	Adapter 4 Loss
4	Adapter 5	Adapter 5 Loss
5	Adapter 6	Adapter 6 Loss
6	Unused	
7	Unused	
8	Spd Cmd Loss	Speed Command Loss
9	Unused	
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

XIO Adapter Loss [XIO Adaptr Loss]
Linear Number: 596
Access Level: Service
Read/Write: Read Only

This parameter specifies the XIO adapter loss. There are 6 possible XIO slots, from Slot 1 to Slot 6. One means the adapter is lost, zero means the adapter is still active.

Bit	Enum Text	Description
0	Card #1	XIO Board connected to Slot #1
1	Card #2	XIO Board connected to Slot #2
2	Card #3	XIO Board connected to Slot #3
3	Card #4	XIO Board connected to Slot #4
4	Card #5	XIO Board connected to Slot #5
5	Card #6	XIO Board connected to Slot #6
6	Unused	
7	Unused	

External Fault PLC [Ext Fault PLC]
Linear Number: 650
Default Value: 0000000000000000
Access Level: Service
Read/Write: Read/Write

This parameter specifies the external inputs coming from the PLC. The parameter External Fault Select allows the user to choose whether the faults come from the XIO board, or from a PLC, or from a combination of the 2 sources. These have been configured as faults (Class1 or Class2). A one indicates an active fault on the card or PLC. There are a total of 16 external faults from External1 to External16. The user can modify the text associated with each fault.

Liquid Cooling System Fault [Liquid Cool Flt]
Linear Number: 358
Default Value: 0000000000000000
Access Level: Service
Read/Write: Read/Write

This parameter specifies the liquid cooling system fault. A one represents an active liquid cooling system fault. The following faults are displayed:

Bit	Enum Text	Description
0	Pressure Ls	Loss of System Pressure (not maskable)
1	Ext Cool Ls	Loss of External Cooling (Heat Exchanger Issue)
2	Cool Temp Lo	Coolant Temperature Low
3	Cool Temp Hi	Coolant Temperature High
4	Conduct Hi	High Conductivity in the Coolant (not maskable)
5	Cool Lvl Lo	Coolant Level Low
6	Cab Temp Hi	Cabinet Temperature High
7	Pump/Fan Pwr	Pump and Fan Power Off
8	DC Link Flow	DC Link Flow
9	Temp Fdbk Ls	Loss of Coolant Temperature Feedback
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

Liquid Cooling System Warning [Liquid Cool Wrn]
Linear Number: 359
Default Value: 0000000000000000
Access Level: Service
Read/Write: Read/Write

This parameter specifies the liquid cooling system warning. A one represents an active liquid cooling system warning.The following warnings are displayed:

Bit	Enum Text	Description
0	Pump Failed	Loss of one of the 2 pumps for the cooling system
1	HxFan Failed	Loss of one of the fans on the heat exchanger
2	Cool Temp Lo	The temperature of the coolant is below the specified alarm point
3	Cool Temp Hi	The temperature of the coolant has exceeded the specified alarm point
4	Conduct Hi	The conductivity of the coolant has exceeded 1(S/cm3
5	Cool Lvl Lo	The level of the coolant in the reservoir has dropped below the alarm level
6	Unused	
7	Unused	
8	Unused	
9	Temp Fdbk Ls	Loss of Coolant Temperature Feedback
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

Fault Output [Fault Output]
Linear Number: 490
Minimum Value: 0
Maximum Value: 1
Access Level: Service
Read/Write: Read Only

This parameter allows the user to properly use a chart recorder, oscilloscope, or similar device to trigger on a drive fault and capture useful test point data. The parameter goes from 0 to the maximum value of 10 whenever any fault occurs. By assigning this to anyone of the test points on the Signal Conditioning Boards, or test point and 0-10V outputs on the Customer Interface Board, you will then have an output that jumps from 0V to 10V whenever any fault occurs. This output can then be used as a trigger for capturing other drive data from test points during a fault.

Warning Output [Warning Output]
Linear Number: 700
Minimum Value: 0
Maximum Value: 1
Access Level: Service
Read/Write: Read Only

This parameter allows the user to properly use a chart recorder, oscilloscope, or similar device to trigger on a drive warning and capture useful test point data. The parameter goes from 0 to the maximum value of 10 whenever any warning occurs. By assigning this to anyone of the test points on the Signal Conditioning Boards, or test point and 0-10V outputs on the Customer Interface Board, you will then have an output that jumps from 0V to 10V whenever any warning occurs. This output can then be used as a trigger for capturing other drive data from test points during a warning.

Line Protection Parameters

DC Overcurrent Trip [DC O/C Trip]
Linear Number: 169
Default Value: 1.75 pu
Minimum Value: 0.10 pu
Maximum Value: 2.00 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the level the dc link current must exceed before a dc link overcurrent fault is indicated.

DC Overcurrent Delay [DC O/C Delay]
Linear Number: 170
Default Value: 0.010 sec
Minimum Value: 0.000 sec
Maximum Value: 0.040 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time the dc link current must remain above the trip level before a dc link overcurrent fault is indicated.

Ground Fault Overcurrent Trip [Gnd flt O/C Trip]
Linear Number: 171
Default Value: 0.50 A
Minimum Value: 0.05 A
Maximum Value: 10.00 A
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the level the ground fault current signal must exceed before a ground fault overcurrent is indicated.

Ground Fault Overcurrent Delay [Gnd flt O/C Dly]
Linear Number: 172
Default Value: 0.10 sec
Minimum Value: 0.00 sec
Maximum Value: 5.00 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time the ground fault current signal must remain above the trip level before a ground fault overcurrent is indicated.

Line DC Overvoltage Trip [Line DC O/V Trip]
Linear Number: 173
Default Value: 1.50 pu
Minimum Value: 0.50 pu
Maximum Value: 1.60 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the level the line side dc link voltage must exceed before a dc link over voltage fault is indicated.

Line DC Overvoltage Delay [Line DC O/V Dly]
Linear Number: 174
Default Value: 0.020 sec
Minimum Value: 0.000 sec
Maximum Value: 0.040 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time the line side dc link voltage must remain above the trip level before a dc link over voltage fault is indicated.

Line Current Unbalance Trip [Line I U/B Trip]
Linear Number: 108
Default Value: 0.05 pu
Minimum Value: 0.01 pu
Maximum Value: 1.15 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the level of the unbalance in the line current which will cause a line current unbalance fault.

Line Current Unbalance Delay [Line I U/B Delay]
Linear Number: 109
Default Value: 1.00 sec
Minimum Value: 0.01 sec
Maximum Value: 5.00 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time the line current unbalance must remain above trip level before a line current unbalance fault is indicated.

Line Overcurrent Trip [Line O/C Trip]
Linear Number: 161
Default Value: 1.50 pu
Minimum Value: 0.00 pu
Maximum Value: 2.00 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the level the line current must exceed before a line overcurrent fault is indicated.

Line Overcurrent Delay [Line O/C Delay]
Linear Number: 162
Default Value: 0.010 sec
Minimum Value: 0.000 sec
Maximum Value: 0.040 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time the line current must remain above the trip level before a line overcurrent fault is indicated.

Drive Overload Trip [Drive O/L Trip]
Linear Number: 163
Default Value: 1.15 pu
Minimum Value: 0.20 pu
Maximum Value: 2.00 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the maximum operating current of the drive which will cause the drive to trip on a line overload fault after a time interval specified by parameter Drive O/L Delay.

Drive Overload Delay [Drive O/L Delay]
Linear Number: 164
Default Value: 60.0 sec
Minimum Value: 0.0 sec
Maximum Value: 61.0 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time the drive may operate at the overload trip level Drive O/L Trip before a line converter overload fault is indicated.

Drive Overload Minimum [Drive O/L min]
Linear Number: 269
Default Value: 1.05 pu
Minimum Value: 0.20 pu
Maximum Value: 1.15 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the minimum pu value of the dc link current which is regarded as an overload condition.

Drive Overload Warning [Drive O/L wrn]
Linear Number: 270
Default Value: 0.50
Minimum Value: 0.20
Maximum Value: 1.15
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies when the drive will issue a line overload warning. This value is a percentage of the difference between the Drive Overload Minimum and Drive Overload Trip levels.

Drv O/L Duty Cyc [Drv O/L Duty Cyc]
Linear Number: 772
Default Value: 600.0 Sec
Minimum Value: 0.0 Sec
Maximum Value: 900.0 Sec
Access Level: Advanced
Read/Write: Read/Write

The overload algorithm was changed from square of difference to difference of squares between the measured current and overload minimum. This corrects the shape of the curve. The overload duty cycle has been changed from 1:10 to 1:9 to reflect the default rating of one minute every ten minutes. A new parameter has been added to adjust this ratio for mixer and extruder-type drives; *Drv O/L Duty Cyc* #772 in the *Line Protection* group.

Line Overvoltage Trip [Line O/V Trip]
Linear Number: 165
Default Value: 1.20 pu
Minimum Value: 0.00 pu
Maximum Value: 1.50 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the level the line voltage must exceed before a line overvoltage fault is indicated.

Line Overvoltage Delay [Line O/V Delay]
Linear Number: 166
Default Value: 0.100 sec
Minimum Value: 0.000 sec
Maximum Value: 10.000 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time the line voltage must remain above the trip level before a line overvoltage fault is indicated.

Line Undervoltage Trip [Line U/V Trip]
Linear Number: 167
Default Value: 0.85 pu
Minimum Value: 0.40 pu
Maximum Value: 1.50 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the level the line voltage must fall below before a Master UV or a Line Loss warning is indicated.

Line Undervoltage Delay [Line U/V Delay]
Linear Number: 168
Default Value: 0.017 sec
Minimum Value: 0.008 sec
Maximum Value: 0.040 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time the line voltage must remain below the trip level before a line undervoltage condition is detected.

Line Voltage Unbalance Trip [Line V U/B Trip]
Linear Number: 271
Default Value: 0.05 pu
Minimum Value: 0.01 pu
Maximum Value: 1.15 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the level of the unbalance in the line voltage which will cause a line voltage unbalance fault to be indicated.

Line Voltage Unbalance Delay [Line V U/B Delay]
Linear Number: 272
Default Value: 1.00 sec
Minimum Value: 0.01 sec
Maximum Value: 5.00 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time the line voltage unbalance must remain above trip level before a line voltage unbalance fault is indicated.

Line Neutral Overvoltage Trip [Line Neut OV Trp]
Linear Number: 587
Default Value: 0.40 pu
Minimum Value: 0.00 pu
Maximum Value: 1.50 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the level the line neutral to ground voltage must exceed before a ground fault over voltage is indicated.

Line Neutral Overvoltage Delay [Line Neut OV Dly]
Linear Number: 588
Default Value: 1.00 sec
Minimum Value: 0.00 sec
Maximum Value: 5.00 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time the line neutral to ground voltage must remain above the trip level before a ground fault over voltage is indicated.

Harmonic Overvoltage Trip [Harmonic O/V Trp]
Linear Number: 675
Default Value: 0.30 pu
Minimum Value: 0.00 pu
Maximum Value: 10.00 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter sets the trip level for the Harmonic Overvoltage fault. This is typically used during commissioning to detect whether there is such an amount of resonance on the system with the 5^{th} harmonic that the voltage distortion can affect drive operation. This parameter should not be changed from the default value, and if this fault occurs the system harmonics need to be addressed and/or the drive may need to be retuned.

Harmonic Overvoltage Delay [Harmonic O/V Dly]
Linear Number: 676
Default Value: 1.00 sec
Minimum Value: 0.00 sec
Maximum Value: 10.00 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter sets the delay for the Harmonic O/V Trip.

Bus Transient Trip Factor [Bus Tran Trp Fac]
Linear Number: 673
Default Value: 2.50 pu
Minimum Value: 0.00 pu
Maximum Value: 100.00 pu
Access Level: Service
Read/Write: Read/Write

This parameter enables and sets the Bus Transient Feature in the PF7000 drive. A value of 2.5 is the tested and default value to enable and actually detect bus transients for most sites. The value can be increased to 2.75 if there are nuisance warnings. Set this parameter to the maximum value to turn off this feature.

Bus Transient Delay [Bus Tran Delay]
Linear Number: 674
Default Value: 2
Minimum Value: 0
Maximum Value: 100
Access Level: Service
Read/Write: Read/Write

This value defines the delay in the bus transient algorithm. This parameter's units are a function of the sampling rate of 4kHz, or 250 usec per unit. Normally is not changed from the default value of 2.

Bus Transient Minimum Trip [Bus Tran Min Trp]
Linear Number: 677
Default Value: 0.30 pu
Minimum Value: 0.00 pu
Maximum Value: 10.00 pu
Access Level: Service
Read/Write: Read/Write

This parameter defines the minimum value for the Bus Transient feature to be enabled, and should not be changed from the default value of .25pu.

Bus Transient DC Current Factor [Bus Tran Idc Fac]
Linear Number: 678
Default Value: 0.50 pu
Minimum Value: 0.00 pu
Maximum Value: 10.00 pu
Access Level: Service
Read/Write: Read/Write

This parameter defines the bus transient DC Current factor in the transient protection algorithm. This should normally not be changed from the default value of 0.5.

Minimum Freewheel Time [Min Freewheel T]
Linear Number: 679
Default Value: 0.016 sec
Minimum Value: 0.000 sec
Maximum Value: 1.000 sec
Access Level: Service
Read/Write: Read/Write

This is the minimum amount of time the drive will freewheel before the control starts to look for the end of the transients. This has been set to 1 cycle at 60 Hz (16ms) which should be sufficient for most transients related to capacitive switching to dampen.

Rectifier Heatsink Temperature Warning [R HS Temp Wrn]
Linear Number: 112
Default Value: 53 C
Minimum Value: 0 C
Maximum Value: 100 C
Access Level: Service
Read/Write: Read/Write

This parameter specifies the level at which the drive will issue a rectifier heatsink over temperature warning.

Rectifier Heatsink Temperature Trip [R HS Temp Trip]
Linear Number: 111
Default Value: 55 C
Minimum Value: 0 C
Maximum Value: 100 C
Access Level: Service
Read/Write: Read/Write

This parameter specifies the level at which the drive will trip on a rectifier heatsink over temperature fault.

Rectifier Device Diagnostic Delay [Rec Dvc Diag Dly]
Linear Number: 266
Default Value: 2
Minimum Value: 0
Maximum Value: 6
Access Level: Service
Read/Write: Read/Write

This parameter is a feature added to help avoid nuisance tripping on Rectifier Device diagnostic faults. The delay allows the drive to ignore a detected fault for the number of line cycles (SCR rectifiers) or the number of consecutive bridge firings (PWM rectifiers) set by this parameter. In the previous revision of firmware it was hard-coded at 3 to help diagnose problems, but should always be left at 2 unless directed to increase it by the factory. There was no delay in all versions of firmware other than 2.002.

Line Loss Trip [Line Loss Trip]
Linear Number: 698
Default Value: 8.0 Hz
Minimum Value: 0.0 Hz
Maximum Value: 40.0 Hz
Access Level: Service
Read/Write: Read/Write

This parameter defines the frequency used in the Line Loss Trip detection. The drive looks for a loss of Line Frequency as well as a loss of line voltage. This was designed to allow for some flexibility in detecting the Line Loss, and gives us the opportunity to eliminate nuisance faults at the expense of a slower response. When the difference between the Line Frequency and the instantaneous frequency values (in the Current Control group) are greater than this parameter, the drive detects Line Loss.

R Neutral OL Trp [R Neutral OL Trp]
Linear Number: 774
Default Value: 5.00
Minimum Value: 0.00
Maximum Value: 655.35
Access Level: Service
Read/Write: Read/Write

The R neutral overload trip level is now adjustable. The R Neutral OL Trip level can be adjusted by this parameter.

NOTE: Do not change from the default values without consulting the MV Technical Support**.**

R Neutral OL Dly [R Neutral OL Dly]
Linear Number: 775
Default Value: 2.50 Sec
Minimum Value: 0.00 Sec
Maximum Value: 655.35 Sec
Access Level: Service
Read/Write: Read/Write

The R neutral overload trip delay is now adjustable. The R Neutral OL Trip delay can be adjusted by this parameter.

NOTE: Do not change from the default values without consulting the MV Technical Support.

R Neutral OC Trp [R Neutral OC Trp]
Linear Number: 776
Default Value: 10.00
Minimum Value: 0.00
Maximum Value: 655.35
Access Level: Service
Read/Write: Read/Write

The R neutral OC trip level is now adjustable. The R Neutral OC Trip level can be adjusted by this parameter.

NOTE: Do not change from the default values without consulting the MV Technical Support.

R Neutral OC Dly [R Neutral OC Dly]
Linear Number: 777
Default Value: 0.010 Sec
Minimum Value: 0.000 Sec
Maximum Value: 65.535 Sec
Access Level: Service
Read/Write: Read/Write

The R neutral OC trip delay is now adjustable. The R Neutral OC Trip delay can be adjusted by this parameter.

NOTE: Do not change from the default values without consulting the MV Technical Support.

LineCurUnbal Lvl [LineCurUnbal Lvl]
Linear Number: 782
Default Value: 0.03 pu
Minimum Value: 0.00 pu
Maximum Value: 1.00 pu
Access Level: Service
Read/Write: Read/Write

This parameter specifies the level, which the measured line current unbalance given by parameter #793 must exceed before a line capacitor failure fault is indicated.

GndCurLvlCapProt [GndCurLvlCapProt]**
Linear Number: 783
Default Value: 10.0 A
Minimum Value: 0.0 A
Maximum Value: 100.0 A
Access Level: Service
Read/Write: Read/Write

This parameter specifies the level, which the ground current at line side given by parameter #367 must exceed before a drive input short fault is indicated.

** Contact factory for availability

Cap Trip Dly [Cap Trip Dly]
Linear Number: 784
Default Value: 200 msec
Minimum Value: 200 msec
Maximum Value: 5000 msec
Access Level: Service
Read/Write: Read/Write

This parameter defines the time delay for which the conditions indicating a capacitor failure have to be met before the drive trips and locks out on a capacitor failure.

Neg Seq Trip Lvl [Neg Seq Trip Lvl]
Linear Number: 785
Default Value: 2.0 A
Minimum Value: 0.0 A
Maximum Value: 200.0 A
Access Level: Service
Read/Write: Read/Write

This parameter specifies the trip threshold for negative sequence current level at the input of the drive.

Neg Seq Trip Dly [Neg Seq Trip Dly]
Linear Number: 786
Default Value: 200 msec
Minimum Value: 25 msec
Maximum Value: 5000 msec
Access Level: Service
Read/Write: Read/Write

This parameter specifies the delay before drive announces cap failure when **[LineCur Neg Seq]** exceeds **[Neg Seq Trip Lvl]**.

Unbalance Ratio [Unbalance Ratio]**
Linear Number: 787
Default Value: 1.3
Minimum Value: 0.0
Maximum Value: 50.0
Access Level: Service
Read/Write: Read/Write

This parameter specifies the trip level for the ratio between line side neutral voltage and neutral current. This parameter is not in use in 6.001 firmware.

** Contact factory for availability.

LineCapStepVolt [LineCapStepVolt]
Linear Number: 788
Default Value: 0.30
Minimum Value: 0.00
Maximum Value: 1.50
Access Level: Service
Read/Write: Read/Write

This parameter specifies the trip level for drop of phase to ground and phase to neutral voltages at the input capacitor. At default value of 0.3pu, drive announces input short and cap failure when these voltages are below this threshold.

NeutVolt TripLvl [NeutVolt TripLvl]
Linear Number: 789
Default Value: 0.10 pu
Minimum Value: 0.00 pu
Maximum Value: 1.50 pu
Access Level: Service
Read/Write: Read/Write

This parameter specifies the trip level of the fundamental component detected in the line neutral voltage feedback given by parameter #794.

Trans IdcPeak [Trans IdcPeak]
Linear Number: 790
Default Value: 1.40 pu
Minimum Value: 0.50 pu
Maximum Value: 4.00 pu
Access Level: Service
Read/Write: Read/Write

This parameter defines the peak of the DC link current during a line transient when Bus Transient Protection is not engaged. By setting this parameter to a value other than 1pu, drive will automatically calculates *Bus Tran Min Trip (677)* based on the drive rating, rectifier device ratings, number of these devices and redundancy setting. Set this parameter to 1pu to be able to manually adjust *Bus Tran Min Trip (677).*

Motor Protection Parameters

Motor Neutral Overvoltage Trip [Mtr Neut O/V Trp]
Linear Number: 189
Default Value: 0.20 pu
Minimum Value: 0.00 pu
Maximum Value: 1.50 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the level the motor neutral to ground voltage must exceed before a ground fault overvoltage is indicated. For line reactor drives, you may find the default setting is too low and may have to be increased to 0.80 pu for normal operation.

Motor Neutral Overvoltage Delay [Mtr Neut O/V Dly]
Linear Number: 190
Default Value: 1.00 sec
Minimum Value: 0.00 sec
Maximum Value: 5.00 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time the motor neutral to ground voltage must remain above the trip level before a ground fault overvoltage is indicated.

Motor Overcurrent Trip [Motor O/C Trip]
Linear Number: 177
Default Value: 1.75 pu
Minimum Value: 0.00 pu
Maximum Value: 2.00 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the level the motor current must exceed before a motor overcurrent fault is indicated.

Motor Overcurrent Delay [Motor O/C Delay]
Linear Number: 178
Default Value: 0.100 sec
Minimum Value: 0.000 sec
Maximum Value: 0.200 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time the motor current must remain above the trip level before a motor overcurrent fault is indicated.

Motor Overload Trip [Motor O/L Trip]
Linear Number: 179
Default Value: 1.15 pu
Minimum Value: 0.20 pu
Maximum Value: 2.00 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the maximum current in the motor which will cause the drive to trip on motor overload fault after a time interval specified by parameter Motor O/L Delay.

Motor Overload Delay [Motor O/L Delay]
Linear Number: 180
Default Value: 60.0 sec
Minimum Value: 0.0 sec
Maximum Value: 61.0 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time the drive may operate at the overload trip level Motor O/L Trip before a motor overload fault is indicated.

Motor Overload Minimum [Motor O/L min]
Linear Number: 350
Default Value: 1.05 pu
Minimum Value: 0.20 pu
Maximum Value: 1.50 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the minimum pu value of the motor current which is regarded as an overload condition.

Motor Overload Warning [Motor O/L Wrn]
Linear Number: 351
Default Value: 0.50
Minimum Value: 0.20
Maximum Value: 1.50
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies when the drive will issue a Motor overload warning. This value is a percentage of the difference between the Motor Overload Minimum and Motor Overload Trip levels.

Mtr O/L Duty Cyc [Mtr O/L Duty Cyc]
Linear Number: 771
Default Value: 600.0 Sec
Minimum Value: 0.0 Sec
Maximum Value: 900.0 Sec
Access Level: Advanced
Read/Write: Read/Write

In all previous firmware releases, the overload algorithm was designed to handle 1 minutes of overload every 10 minutes. However for Banbury mixers and other heavy duty applications, the overload cycle could be less than 10 minutes. To achieve this, a new parameter Mtr *O/L Duty Cycle* (#771) has been added in this build. This parameter specifies the overload duty cycle for the drive. The default value is 600 seconds (10 minutes).

Motor Overvoltage Trip [Motor O/V Trip]
Linear Number: 181
Default Value: 1.20 pu
Minimum Value: 0.00 pu
Maximum Value: 2.00 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the level the motor voltage must exceed before a motor overvoltage fault is indicated.

Motor Overvoltage Delay [Motor O/V Delay]
Linear Number: 182
Default Value: 0.500 sec
Minimum Value: 0.000 sec
Maximum Value: 10.000 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time the motor voltage must remain above the trip level before a motor overvoltage fault is indicated.

Motor DC Overvoltage Trip [Mtr DC O/V Trip]
Linear Number: 193
Default Value: 1.50 pu
Minimum Value: 0.00 pu
Maximum Value: 2.00 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the level the machine side dc link voltage must exceed before a dc overvoltage fault is indicated.

Motor DC Overvoltage Delay [Mtr DC O/V Delay]
Linear Number: 194
Default Value: 0.020 sec
Minimum Value: 0.000 sec
Maximum Value: 0.040 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time the machine side dc link voltage must remain above the trip level before a dc overvoltage fault is indicated.

Motor Stall Delay [Mtr Stall Delay]
Linear Number: 191
Default Value: 2.00 sec
Minimum Value: 0.00 sec
Maximum Value: 10.00 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time the motor must be in a stall condition before a motor stall fault is indicated. If the tachometer option is enabled, the motor is considered to be stalled if the drive is in torque limit at any speed less than 1 Hz. If the tachometer option is not enabled, the motor is considered to be stalled if the drive is at commanded speed and the motor flux is below the level specified by the parameter “Flux minimum”. A stall cannot be detected until the drive reaches the commanded speed because the motor may already be rotating when the drive is started. In this case, if the motor speed is above the commanded speed, or the motor is rotating in opposite direction, a stall fault will occur.

Motor Overspeed Trip [Overspeed Trip]
Linear Number: 185
Default Value: 66.0 Hz
Minimum Value: 10.0 Hz
Maximum Value: 100.0 Hz
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the level the motor speed must exceed before a motor overspeed fault is indicated.

Motor Overspeed Delay [Overspeed Delay]
Linear Number: 186
Default Value: 0.50 sec
Minimum Value: 0.00 sec
Maximum Value: 10.00 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time the motor speed must exceed the trip level before a motor overspeed fault is indicated.

Motor Flux Unbalance Trip [Flux UB Trip]
Linear Number: 585
Default Value: 0.05 pu
Minimum Value: 0.00 pu
Maximum Value: 1.00 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the level of the unbalance in the motor flux that will cause a motor unbalance fault.

Motor Flux Unbalance Delay [Flux UB Delay]
Linear Number: 586
Default Value: 5.00 sec
Minimum Value: 0.01 sec
Maximum Value: 5.00 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time the motor flux unbalance value must remain above trip level before a flux unbalance fault is indicated.

Motor Current Unbalance Trip [Mtr I UB Trip]
Linear Number: 208
Default Value: 0.05 pu
Minimum Value: 0.01 pu
Maximum Value: 1.00 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the level of motor current unbalance that will cause the drive to trip.

Motor Current Unbalance Delay [Mtr I UB Delay]
Linear Number: 214
Default Value: 5.00 sec
Minimum Value: 0.01 sec
Maximum Value: 5.00 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time the motor current unbalance value must remain above trip level before a current unbalance fault is indicated.

Motor Unbalance Frequency [Mtr UB Freq]
Linear Number: 274
Default Value: 1.5 Hz
Minimum Value: 0.0 Hz
Maximum Value: 100.0 Hz
Access Level: Service
Read/Write: Read/Write

This parameter specifies the minimum frequency at which the drive begins to detect the motor unbalance (flux). It is common for there to be some unbalance during an open-loop start, so this parameter is designed to allow the drive to ignore the flux feedback for diagnostic purposes until we reach the programmed Motor UB frequency.

Load Loss Level [Load Loss Level]
Linear Number: 246
Default Value: 0.25 pu
Minimum Value: 0.00 pu
Maximum Value: 1.00 pu
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the minimum percent of rated load at which the drive will assume that there is a loss of load. If the load drops lower than this parameter, and the speed is greater than Load Loss Speed , the drive will initiate the fault after the Load Loss Delay expires. The control uses the parameter Torque Reference (P291) as the load reference.

Load Loss Speed [Load Loss Spd]
Linear Number: 259
Default Value: 30.0 Hz
Minimum Value: 0.0 Hz
Maximum Value: 100.0 Hz
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the minimum speed at which the loss of load condition will be detected. Generally there is less load at lower speeds, so this parameter helps avoid nuisance trips during operation at lower speeds.

Load Loss Delay [Load Loss Delay]
Linear Number: 231
Default Value: 1.0 sec
Minimum Value: 0.0 sec
Maximum Value: 30.0 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time delay between the detection of the load loss condition and the actual fault initiation.

Inverter Heatsink Temperature Warning [I HS Temp Wrn]
Linear Number: 316
Default Value: 61 C
Minimum Value: 0 C
Maximum Value: 100 C
Access Level: Service
Read/Write: Read/Write

This parameter specifies the level at which the drive will issue an inverter heatsink over temperature warning.

Inverter Heatsink Temperature Trip [I HS Temp Trip]
Linear Number: 315
Default Value: 64 C
Minimum Value: 0 C
Maximum Value: 100 C
Access Level: Service
Read/Write: Read/Write

This parameter specifies the level at which the drive will trip on an inverter heatsink over temperature fault.

Pressure Value Warning [Pres Val Wrn]
Linear Number: 320
Default Value: 3.0 V
Minimum Value: 0.5 V
Maximum Value: 10.0 V
Access Level: Service
Read/Write: Read/Write

This parameter specifies the level to which the pressure value must decrease before a warning is indicated. Loss of pressure is typically associated with reduced airflow due to blocking of the air filter.

Pressure Value Trip [Pres Val Trip]
Linear Number: 319
Default Value: 2.5 V
Minimum Value: 0.5 V
Maximum Value: 10.0 V
Access Level: Service
Read/Write: Read/Write

This parameter specifies the level to which the pressure value must decrease before a fault is indicated. Such a condition indicates either blocking of the air filter or a loss of fan operation.

Pressure Value Nominal [Pres Val Nominal]
Linear Number: 317
Default Value: 3.6 V
Minimum Value: 0.5 V
Maximum Value: 10.0 V
Access Level: Service
Read/Write: Read/Write

This parameter specifies the nominal value of the pressure sensor and indicates normal airflow in the drive.

Inverter Device Diagnostic Delay [Inv Dvc Diag Dly]
Linear Number: 268
Default Value: 2
Minimum Value: 0
Maximum Value: 6
Access Level: Service
Read/Write: Read/Write

This parameter is a feature added to help avoid nuisance tripping on Inverter Device diagnostic faults. The delay allows the drive to ignore a detected fault for the number of consecutive bridge firings set by this parameter. In the previous revision of firmware it was hard-coded at 3 to help diagnose problems, but should always be left at 2 unless directed to increase it by the factory. It was no delay in all versions of firmware other than 2.002.

Field Current Loss Delay [Field Loss Dly]
Linear Number: 559
Default Value: 30 sec
Minimum Value: 1 sec
Maximum Value: 60 sec
Access Level: Service
Read/Write: Read/Write

This parameter is used to specify the time that the flux regulator is in limit before the drive trip on a field loss. Field Current is not directly measured in the control, so we look at the flux regulator, which will go into limit on loss of field current.

Pressure Value for Transformer Air Flow Trip [Pres Val Tx Trip]
Linear Number: 654
Default Value: 2.5 V
Minimum Value: 0.5 V
Maximum Value: 10.0 V
Access Level: Service
Read/Write: Read/Write

This parameter specifies the trip voltage level for the air pressure sensor in the Isolation Transformer section of the A-Frame drive. This parameter operates with the same functionality of the air pressure sensor across the power cages. THIS PARAMETER IS ACTIVE FOR A-FRAME DRIVES ONLY.

Pressure Value for Transformer Air Flow Warning [Pres Val Tx Wrn]
Linear Number: 655
Default Value: 3.0 V
Minimum Value: 0.5 V
Maximum Value: 10.0 V
Access Level: Service
Read/Write: Read/Write

This parameter specifies the warning voltage level for the air pressure sensor in the Isolation Transformer section of the A-Frame drive. This parameter operates with the same functionality of the air pressure sensor across the power cages. THIS PARAMETER IS ACTIVE FOR A-FRAME DRIVES ONLY.

Pressure Value for Transformer Air Flow Nominal [Pres Val Tx Nom]
Linear Number: 656
Default Value: 3.6 V
Minimum Value: 0.5 V
Maximum Value: 10.0 V
Access Level: Service
Read/Write: Read/Write

This parameter specifies the nominal (operating) voltage level for the air pressure sensor in the Isolation Transformer section of the A-Frame drive. This parameter operates with the same functionality of the air pressure sensor across the power cages. THIS PARAMETER IS ACTIVE FOR A-FRAME DRIVES ONLY.

Sync Xfer Option Parameters

Synchronizing Regulator Output [Sync Reg Output]
Linear Number: 298
Minimum Value: -10.00 Hz
Maximum Value: 10.00 Hz
Access Level: Advanced
Read/Write: Read Only

This parameter is the synchronizing regulator output, which is added to the speed regulator error during a synchronous transfer from drive to bypass.

Synchronizing Regulator Error [Sync Reg Error]
Linear Number: 297
Minimum Value: -180.0 deg
Maximum Value: 180.0 deg
Access Level: Advanced
Read/Write: Read Only

This parameter is the synchronizing regulator error, which is the phase angle between the line voltage and the motor voltage during a synchronous transfer from drive to bypass.

Synchronous Transfer Option [Sync Xfer Option]
Linear Number: 419
Default Value: Disabled
Access Level: Advanced
Read/Write: Read/Write when Stopped

This parameter enables the Synchronous Transfer option on the PowerFlex 7000 drive. There are 3 possible options.

Value	Enum Text	Description
0	Disabled	Synchronous Transfer Disabled
1	Enable Warn	Sync Transfer Enabled – Failure to Transfer will be a warning and the drive will continue to run
2	Enable Fault	Sync Transfer Enabled – Failure to Transfer will be a fault and stop the drive

Synchronizing Error Maximum [Sync Error max]
Linear Number: 228
Default Value: 0 deg
Minimum Value: 0 deg
Maximum Value: 30 deg
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the maximum allowable synchronizing phase error. The bypass contactor will be requested to close when the synchronizing phase error has remained below this maximum value for the time specified by the Synchronizing Time parameter.

Synchronous Transfer Lead Angle [Sync Lead Angle]
Linear Number: 226
Default Value: 0 deg
Minimum Value: -90 deg
Maximum Value: 90 deg
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the angle by which the motor voltage leads the drive input voltage when the motor is assumed to be synchronized. The purpose of this parameter is to compensate for any phase difference between the drive input voltage and the bypass contactor supply voltage.

Synchronous Transfer Off Delay [Sync Off Delay]
Linear Number: 227
Default Value: 0.100 sec
Minimum Value: 0.000 sec
Maximum Value: 0.500 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time delay between the bypass contactor being requested to close and the drive shutting off. It is normally set to slightly less than the bypass contactor closing time, with a minimum of 1½ – 2 cycles desirable.

Synchronizing Regulator Gain [Sync Reg Gain]
Linear Number: 225
Default Value: 1.0
Minimum Value: 0.0
Maximum Value: 5.0
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the gain of the synchronizing regulator.

Synchronizing Time [Sync Time]
Linear Number: 229
Default Value: 10.0 sec
Minimum Value: 0.0 sec
Maximum Value: 10.0 sec
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time that the synchronizing phase error must be less than Synchronizing Error Maximum before the bypass contactor is requested to close.

Synchronous Transfer Time [Sync Xfer Time]
Linear Number: 230
Default Value: 1.0 min
Minimum Value: 0.1 min
Maximum Value: 57.0 min
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the time allowed for completion of a synchronous transfer. If transfer is not complete within this time, the drive will stop with a “sync transfer failed” fault. If the “sync transfer failed” fault is disabled, the transfer request will be cancelled and the drive will continue to run at the commanded speed. A “sync transfer failed” warning will be displayed.

Bypass Voltage [V Bypass]
Linear Number: 117
Minimum Value: 0.000 pu
Maximum Value: 2.000 pu
Access Level: Advanced
Read/Write: Read Only

This parameter specifies the voltage on the line-side of the Bypass Contactor, and is scaled in per unit with respect to the Rated Motor Voltage.

Bypass Frequency [Bypass Freq]
Linear Number: 159
Minimum Value: -100.0 Hz
Maximum Value: 100.0 Hz
Access Level: Advanced
Read/Write: Read Only

This parameter specifies the frequency of the voltage on the line-side of the Bypass Contactor.

Synchronous Transfer Voltage Source [Sync Volt Source]
Linear Number: 622
Default Value: Bypass
Access Level: Advanced
Read/Write: Read/Write when Stopped

This parameter allows the user to select where the drive will obtain the voltage for the synchronous transfer application. The Bypass selection indicates the drive is using the feedback from the Bypass contactor cabinet for all measurement, protection, and synchronization functions. The Line selection indicates the drive is using the feedback from the Master Bridge voltages for these functions.

Value	Enum Text	Description
0	Bypass	Bypass Feedback Voltage used for All Sync Transfer functions
1	Line	Line Feedback Voltage used for All Sync Transfer functions (typically used for all step-up/step-down applications)

Cap Charge Time [Cap Charge Time]
Linear Number: 763
Default Value: 1 sec
Minimum Value: 1 sec
Maximum Value: 10 sec
Access Level: Service
Read/Write: Read/Write

A parameter *Cap Charge Time* (#763) has been added in *Sync Xfer Option* group to control the capacitor charging interval on de-synchronization. The minimum and the default value is 1 second i.e. upon starting the drive it will take 1 second to begin the transfer from the bypass to the drive. Using this parameter, the delay can be increased upto a maximum of 10 seconds and will be useful for drives with an output transformer requiring more than 1 second for charging the motor filter capacitor

Tach Option Parameters

Tachometer Feedback [Tach Feedback]
Linear Number: 348
Minimum Value: -100.0 Hz
Maximum Value: 100.0 Hz
Access Level: Basic
Read/Write: Read Only

This parameter specifies the tachometer feedback speed indication. This reading is the signed indication of speed.

Tachometer Feedback Debug [Tach Fbk Debug]
Linear Number: 349
Minimum Value: -100.00 Hz
Maximum Value: 100.00 Hz
Access Level: Service
Read/Write: Read Only

This parameter specifies the tachometer feedback speed indication. It is an unsigned (absolute value) indication of speed, not used in drive control. This parameter has 2-digit accuracy to troubleshoot slip-related problems with greater accuracy.

Tachometer Type [Tach Type]
Linear Number: 233
Default Value: None
Access Level: Basic
Read/Write: Read/Write when Stopped

This parameter specifies the type of tachometer or encoder installed. Warning: If tachometer type is set to Single, the drive cannot determine the direction of rotation when the motor is coasting. If the direction of rotation is not the same as the commanded direction, a flying start will not be successful.

The following types are available:

Value	Enum Text	Description
0	None	No tach installed
1	Single	Single output (non-directional)
2	Quadrature	Quadrature outputs (directional)
3	Absolute Enc	Absolute encoder
4	Sine-Cos Inc	Not active
5	Sine-Cos Z	Not active
6	Sine-Cos SSI	Not active

Tachometer Pulses per Revolution [Tach pulse/rev]
Linear Number: 234
Default Value: 1024 ppr
Minimum Value: 120 ppr
Maximum Value: 4096 ppr
Access Level: Basic
Read/Write: Read/Write when Stopped

This parameter specifies the number of pulses produced by the tachometer in one revolution. This parameter is not used for absolute encoders.

Encoder Direction [Enc Direction]
Linear Number: 643
Default Value: Forward
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the direction of the encoder. There are 2 options: Forward and Reverse.
THIS PARAMETER IS NOT CURRENTLY USED IN FIRMWARE 5.xxx, BUT HAS BEEN ADDED FOR FUTURE USAGE.

Value	Enum Text	Description
0	Reverse	The direction feedback from the tachometer matches the motor rotation
1	Forward	The direction feedback from the tachometer is opposite the motor rotation

Encoder Offset [Encoder Offset]
Linear Number: 644
Default Value: 0 deg
Minimum Value: 0 deg
Maximum Value: 360 deg
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the offset of the encoder. This is required as an encoder is not just used for direction, but also for position.
THIS PARAMETER IS NOT CURRENTLY USED IN FIRMWARE 5.xxx, BUT HAS BEEN ADDED FOR FUTURE USAGE.

Tachometer Loss Trip [Tach Loss Trip]
Linear Number: 235
Default Value: 2.0 Hz
Minimum Value: 0.0 Hz
Maximum Value: 10.0 Hz
Access Level: Service
Read/Write: Read/Write

This parameter specifies the level that the tachometer error must exceed before a tachometer loss fault is indicated.

Tachometer Loss Delay [Tach Loss Delay]
Linear Number: 236
Default Value: 0.10 sec
Minimum Value: 0.00 sec
Maximum Value: 1.00 sec
Access Level: Service
Read/Write: Read/Write

This parameter specifies the time that the tachometer error must be greater than the trip level before a tachometer loss fault is indicated.

Control Masks Parameters

Direction Command Mask [Direction Mask]
Linear Number: 244
Default Value: 11111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies which adapters can issue the forward/reverse command. A one represents the adapter that can issue the direction command, a zero represents an adapter that cannot issue the direction command. There are 8 adapters available, from Adapter0 to Adapter7. Adapter 0 is the XIO board, Adapter 8 is the PanelView, and Adapter 1 to Adapter 6 are the SCANport/DPI adapters.

Jog Command Mask [Jog Mask]
Linear Number: 245
Default Value: 11111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies which adapters can issue the jog command. A one represents the adapter that can issue the jog command, a zero represents an adapter that cannot issue the jog command. There are 8 adapters available, from Adapter0 to Adapter7.

Local Command Mask [Local Mask]
Linear Number: 242
Default Value: 11111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies which adapters can issue the local command. A one represents the adapter that can issue the local command, a zero represents an adapter that cannot issue the local command. There are 8 adapters available, from Adapter0 to Adapter7.

Logic Command Mask [Logic Mask]
Linear Number: 241
Default Value: 11111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies which adapters can issue the logic command. A one represents the adapter that can issue the logic command, a zero represents an adapter that cannot issue the logic command. There are 8 adapters available, from Adapter0 to Adapter7.

Reference Command Mask [Ref Cmd Mask]
Linear Number: 248
Default Value: 11111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies which adapters can issue the reference command. A one represents the adapter that can issue the reference command, a zero represents an adapter that cannot issue the reference command. There are 8 adapters available, from Adapter0 to Adapter7.

Fault Reset Command Mask [Reset Mask]
Linear Number: 247
Default Value: 11111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies which adapters can issue the reset command. A one represents the adapter that can issue the reset command, a zero represents an adapter that cannot issue the reset command. There are 8 adapters available, from Adapter0 to Adapter7.

Start Command Mask [Start Mask]
Linear Number: 243
Default Value: 11111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies which adapters can issue the start command. A one represents the adapter that can issue the start command, a zero represents an adapter that cannot issue the start command. There are 8 adapters available, from Adapter0 to Adapter7.

Synchronous Transfer Command Mask [Sync Xfer Mask]
Linear Number: 249
Default Value: 11111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies which adapters can issue the synchronous transfer command. A one represents the adapter that can issue the synchronous transfer command, a zero represents an adapter that cannot issue the synchronous transfer command. There are 8 adapters available, from Adapter0 to Adapter7.

Forced Fault Mask [Forced Flt Mask]
Linear Number: 638
Default Value: 11111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies which adapters can issue a forced fault. A one represents the adapter that can issue the forced fault, a zero represents an adapter that cannot issue the forced fault. There are 8 adapters available, from Adapter0 to Adapter7.

Profile Mask [Profile Mask]
Linear Number: 36
Default Value: 11111111
Access Level: Basic
Read/Write: Read/Write

This parameter specifies which adapters can issue the Acceleration/Deceleration Profile command. The adapter can select either Ramp or S-Curve profiles. A one represents an adapter that has control over the Profile, and a zero represents an adapter that does not have control over the Profile. There are 8 adapters available, from Adapter 0 to Adapter 7.

Owners Parameters

Direction Command Owner [Direction Owner]
Linear Number: 388
Access Level: Monitor
Read/Write: Read Only

This parameter specifies which adapters are issuing the direction command. A one represents the adapter that is issuing the direction command, a zero represents an adapter that is not issuing the direction command. There are 8 adapters available, from Adapter0 to Adapter7.

Jog Command Owner [Jog Owner]
Linear Number: 389
Access Level: Monitor
Read/Write: Read Only

This parameter specifies which adapters are issuing the jog command. A one represents the adapter that is issuing the jog command, a zero represents an adapter that is not issuing the jog command. There are 8 adapters available, from Adapter0 to Adapter7.

Local Command Owner [Local Owner]
Linear Number: 386
Access Level: Monitor
Read/Write: Read Only

This parameter specifies which adapters are issuing the local command. A one represents the adapter that is issuing the local command, a zero represents an adapter that is not issuing the local command. There are 8 adapters available, from Adapter0 to Adapter7.

Reference Command Owner [Ref Cmd Owner]
Linear Number: 392
Access Level: Monitor
Read/Write: Read Only

This parameter specifies which adapters are issuing the reference command. A one represents the adapter that is issuing the reference command, a zero represents an adapter that is not issuing the reference command. There are 8 adapters available, from Adapter0 to Adapter7.

Fault Reset Command Owner [Reset Owner]
Linear Number: 391
Access Level: Monitor
Read/Write: Read Only

This parameter specifies which adapters are issuing the reset command. A one represents the adapter that is issuing the reset command, a zero represents an adapter that is not issuing the reset command. There are 8 adapters available, from Adapter0 to Adapter7.

Start Command Owner [Start Owner]
Linear Number: 387
Access Level: Monitor
Read/Write: Read Only

This parameter specifies which adapters are issuing the start command. A one represents the adapter that is issuing the start command, a zero represents an adapter that is not issuing the start command. There are 8 adapters available, from Adapter0 to Adapter7.

Stop Command Owner [Stop Owner]
Linear Number: 385
Access Level: Monitor
Read/Write: Read Only

This parameter specifies which adapters are issuing the stop command. A one represents the adapter that is issuing the stop command, a zero represents an adapter that is not issuing the stop command. There are 8 adapters available, from Adapter0 to Adapter7.

Synchronous Transfer Command Owner [Sync Xfer Owner]
Linear Number: 393
Access Level: Monitor
Read/Write: Read Only

This parameter specifies which adapters are issuing the synchronous transfer command. A one represents the adapter that is issuing the synchronous transfer command, a zero represents an adapter that is not issuing the synchronous transfer command. There are 8 adapters available, from Adapter0 to Adapter7.

Forced Fault Owner [Forced Flt Owner]
Linear Number: 639
Access Level: Monitor
Read/Write: Read Only

This parameter specifies which adapters are issuing the forced fault. A one represents the adapter that is issuing the forced fault, a zero represents an adapter that is not issuing the forced fault. There are 8 adapters available, from Adapter0 to Adapter7.

Profile Owner [Profile Owner]
Linear Number: 37
Access Level: Monitor
Read/Write: Read Only

This parameter specifies which adapters are issuing the Acceleration/Deceleration Profile command. A one represents the adapter that has control over the Acceleration/Deceleration Profile, and a zero represents the adapters not having control over the Profile. There are 8 adapters available, from Adapter 0 to Adapter 7.

Logic Owner [Logic Owner]
Linear Number: 94
Access Level: Monitor
Read/Write: Read Only

This parameter specifies which adapters are issuing the Logic command. A one represents the adapter that is issuing the Logic command, and a zero represents the adapters that are not issuing the Logic command. There are 8 adapters available, from Adapter 0 to Adapter 7.

Logic I/O Parameters

Local Inputs [Local Inputs]
Linear Number: 260
Access Level: Monitor
Read/Write: Read Only

This parameter specifies the run-time local inputs on the XIO. This inputs are logically parsed into a Logic Command word. A one represents an active input, and the bit positions are as follows:

Bit	Enum Text	Description
0	Not Stop	Drive is ready to Run.
1	Start	Request to Start the drive.
2	Forward	Request to turn the motor in Forward direction.
3	Reverse	Request to turn the motor in Reverse direction.
4	Jog	Request to run the drive in Jog mode.
5	Local	Drive control command is issued via Local control.
6	Drive Reset	Request to clear the Faults and Warnings
7	Synch	Transfer to Bypass
8	Desynch	Transfer to Drive
9	Unused	
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

Local Outputs [Local Outputs]
Linear Number: 261
Access Level: Monitor
Read/Write: Read Only

This parameter specifies the local outputs on the XIO. These outputs are used for Pilot Light and customer process control. A one represents an active output, and the following outputs are displayed:

Bit	Enum Text	Description
0	Ready PL	Drive is in Ready mode.
1	Running PL	Drive is Running mode.
2	Forward PL	Drive is running the motor in Forward direction.
3	Reverse PL	Drive is running the motor in Reverse direction.
4	Jog PL	Drive is running in Jog mode.
5	Local PL	Drive control is in Local mode.
6	Remote PL	Drive control is in Remote mode.
7	Fault PL	Drive is currently in Fault state.
8	Warning PL	Drive is currently in Warning state.
9	Test Mode PL	Drive is in Test Mode
10	At Speed PL	Drive has reached the commanded speed.
11	Cool Alrm PL	Drive cooling system has faulted.
12	Fan1 Ctctr	Fan 1 has been commanded to Run.
13	Fan2 Ctctr	Fan 2 has been commanded to Run.
14	Sync Xfer	Drive is in Synch or DeSynch mode.
15	At Torq Lmt	Drive is running in Torque Limit.

Logic Command [Logic Command]
Linear Number: 257
Access Level: Monitor
Read/Write: Read Only

This parameter specifies the logic command used by the drive control. Refer to PowerFlex 7000 User Manual, Appendix C, for descriptions. The following commands are displayed, with a one representing an active command:

Bit	Enum Text	Description
0	Not Stop	Drive is ready to Run
1	Start	Start the Drive
2	Jog	Start the drive in Jog mode
3	Clr Flt Que	Clear the Fault queue
4	Clr Warn Que	Clear the Warning queue
5	Drive Reset	Reset the drive
6	Direction	Direction of rotation
7	Start Profle	Drive Start profile
8	Stop Profle	Drive Stop profile
9	Flash Mode	DPI Adapter in Flash Mode
10	Unused	
11	Synch 1	Synchronous transfer to Bypass from Drive
12	Synch 2	Synchronous transfer to Drive from Bypass
13	Force Stop	Force Stop the drive (DPI)
14	Force Fault	Force Fault the drive (DPI)
15	Unused	

Logic Status [Logic Status]
Linear Number: 258
Access Level: Monitor
Read/Write: Read Only

This parameter specifies the value of logic status. A one represents an active condition, and it is bit encoded as follows:

Bit	Enum Text	Description
0	Ready	The drive is in Ready condition.
1	Running	The drive is Running.
2	Com Direct'n	Commanded direction of rotation
3	Rot Direct'n	Actual Direction of rotation
4	Accelerating	The drive is accelerating.
5	Decelerating	The drive is decelerating.
6	At speed	The drive has reached commanded speed.
7	On Bypass	The drive is currently running on bypass.
8	Rev Enabled	Reverse rotation of the drive has been enabled.
9	Drive Fault	Drive is in Fault mode
10	Drive Warn	Drive is in Warning mode
11	Local Lock	An adaptor has local control of the drive
12	Forced Stop	DPI adaptor has issued a forced stop command
13	Speed Com1	Speed reference source
14	Speed Com2	Speed reference source
15	Speed Com3	Speed reference source

SCB Line Inputs [SCBL Inputs]
Linear Number: 464
Access Level: Basic
Read/Write: Read Only

This parameter specifies the SCBL digital inputs and is used to indicate the status of the input and output contactors and isolating switches (if installed in the drive). 1 indicates a closed status while 0 indicates an open status. The following inputs are displayed:

Bit	Enum Text	Description
0	DI Contactor	Status of the Input Contactor.
1	DI Isolation	Status of the Input Isolating switch.
2	DO Contactor	Status of the Output Contactor.
3	DO Isolation	Status of the Output Isolating switch.
4	Unused	
5	Unused	
6	Unused	
7	Unused	

SCBL Outputs Cmd [SCBL Outputs Cmd]
Linear Number: 766
Access Level: Basic
Read/Write: Read Only

The commanded value of the SCBL outputs from the inverter to the rectifier is now displayed in the variable *SCBL Outputs Cmd* #766 in the Logic I/O group. The actual value of the SCBL output (which may be changed by the rectifier) is displayed in the original SCBL Outputs variable.

Bit	Enum Text	Description
0	DI Contactor	DI Contactor
1	Isol Tx 1	Isolation Transformer 1
2	DO Contactor	DO Contactor
3	Isol Tx 2	Isolation Transformer 2
4	Unused	
5	Unused	
6	Unused	
7	Unused	

SCB Line Outputs [SCBL Outputs]
Linear Number: 462
Access Level: Basic
Read/Write: Read Only

This parameter specifies the SCBL digital outputs and is used to close the input and output contactors (if installed in the drive). 1 indicates a command to close while a 0 open the contactors. The following outputs are displayed:

Bit	Enum Text	Description
0	DI Contactor	Input Contactor Close Command
1	Isol Tx 1	Isolation Transformer cooling Fan1 contactor close command
2	DO Contactor	Output Contactor Close command
3	Isol Tx 2	Isolation transformer cooling Fan2 contactor close command
4	Unused	
5	Unused	
6	Unused	
7	Unused	

SCB Motor Inputs [SCBM Inputs]
Linear Number: 463
Access Level: Basic
Read/Write: Read Only

This parameter specifies the SCBM digital inputs and is used to indicate the status of the bypass contactor and bypass isolating switch used in drives with synchronous transfer option. 1 indicates a closed status. The following inputs are displayed:

Bit	Enum Text	Description
0	BP Contactor	Displays the status of the Bypass Contactor
1	BP Isolation	Displays the status of the Bypass Isolating switch
2	OP Contactor	Displays the status of the System Output Contactor
3	OP Isolation	Displays the status of the System Output Isolating switch
4	Unused	
5	Unused	
6	Unused	
7	Unused	

SCB Motor Outputs [SCBM Outputs]
Linear Number: 461
Access Level: Basic
Read/Write: Read Only

This parameter specifies the SCBM digital outputs used to control the bypass contactor (installed in the drives with synchronous transfer option). 1 indicates a command to close while a 0 opens the contactor. The following outputs are displayed:

Bit	Enum Text	Description
0	BP Contactor	Control the Bypass Contactor
1	BP Enable	Control the Bypass Enable
2	OP Contactor	Control the System Output Contactor
3	Inv DIC	Inverter Contact in DI Contactor Control String (for control fault purposes)
4	Unused	
5	Unused	
6	Unused	
7	Unused	

Adapter I/O Parameters

PLC Error Flags [PLC Error Flags]
Linear Number: 376
Access Level: Basic
Read/Write: Read Only

This parameter specifies the PLC Remote I/O error flags. A zero represents no error, a one represents an error.

A link range will be indicated when the corresponding parameter is out of range. A link error will be indicated if the corresponding cannot be made, or if an attempt is made to modify a parameter that is read only, or cannot be modified while the drive is running.

Bit	Enum Text	Description
0	LinkA1 Range	LinkA1 Range
1	LinkA2 Range	LinkA2 Range
2	LinkB1 Range	LinkB1 Range
3	LinkB2 Range	LinkB2 Range
4	LinkC1 Range	LinkC1 Range
5	LinkC2 Range	LinkC2 Range
6	LinkD1 Range	LinkD1 Range
7	LinkD2 Range	LinkD2 Range
8	LinkA1 Error	LinkA1 Error
9	LinkA2 Error	LinkA2 Error
10	LinkB1 Error	LinkB1 Error
11	LinkB2 Error	LinkB2 Error
12	LinkC1 Error	LinkC1 Error
13	LinkC2 Error	LinkC2 Error
14	LinkD1 Error	LinkD1 Error
15	LinkD2 Error	LinkD2 Error

PLC Input Link A1 [PLC In Link A1]
Linear Number: 529
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with PLC input link A1.

PLC Input Link A2 [PLC In Link A2]
Linear Number: 530
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with PLC input link A2.

PLC Input Link B1 [PLC In Link B1]
Linear Number: 531
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with PLC input link B1.

PLC Input Link B2 [PLC In Link B2]
Linear Number: 532
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with PLC input link B2.

PLC Input Link C1 [PLC In Link C1]
Linear Number: 533
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with PLC input link C1.

PLC Input Link C2 [PLC In Link C2]
Linear Number: 534
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with PLC input link C2.

PLC Input Link D1 [PLC In Link D1]
Linear Number: 535
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with PLC input link D1.

PLC Input Link D2 [PLC In Link D2]
Linear Number: 536
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with PLC input link D2.

PLC Output Link A1 [PLC Out Link A1]
Linear Number: 537
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with PLC output link A1.

PLC Output Link A2 [PLC Out Link A2]
Linear Number: 538
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with PLC output link A2.

PLC Output Link B1 [PLC Out Link B1]
Linear Number: 539
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with PLC output link B1.

PLC Output Link B2 [PLC Out Link B2]
Linear Number: 540
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with PLC output link B2.

PLC Output Link C1 [PLC Out Link C1]
Linear Number: 541
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with PLC output link C1.

PLC Output Link C2 [PLC Out Link C2]
Linear Number: 542
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with PLC output link C2.

PLC Output Link D1 [PLC Out Link D1]
Linear Number: 543
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with PLC output link D1.

PLC Output Link D2 [PLC Out Link D2]
Linear Number: 544
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with PLC output link D2.

Analog Parameters

Analog Meter 1 [Anlg Meter1]
Linear Number: 517
Default Value: 361
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with analog meter 1 on the Customer Interface Board (CIB). The meter output is scalable with the Analog Meter Scale parameter. Linear number 361 corresponds to the Current Meter parameter. This is a non-isolated 0-10 V output.

Analog Meter 2 [Anlg Meter2]
Linear Number: 518
Default Value: 362
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with analog meter 2 on the Customer Interface Board (CIB). The meter output is scalable with the Analog Meter Scale parameter. Linear number 362 corresponds to the Voltage Meter parameter. This is a non-isolated 0-10 V output.

Analog Meter 3 [Anlg Meter3]
Linear Number: 519
Default Value: 363
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with analog meter 3 on the Customer Interface Board (CIB). The meter output is scalable with the Analog Meter Scale parameter. Linear number 363 corresponds to the Speed Meter parameter. This is a non-isolated 0-10 V output.

Analog Meter 4 [Anlg Meter4]
Linear Number: 520
Default Value: 364
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with analog meter 4 on the Customer Interface Board (CIB). The meter output is scalable with the Analog Meter Scale parameter. Linear number 364 corresponds to the Power Meter parameter. This is a non-isolated 0-10 V output.

Analog CIB Port 1 [Anlg CIB Port1]
Linear Number: 513
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with analog port 1 on the Customer Interface Board (CIB). This is a non-isolated 0-10 V output.

Analog CIB Port 2 [Anlg CIB Port2]
Linear Number: 514
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with analog port 2 on the Customer Interface Board (CIB). This is a non-isolated 0-10 V output.

Analog CIB Port 3 [Anlg CIB Port3]
Linear Number: 515
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with analog port 3 on the Customer Interface Board (CIB). This is a non-isolated 0-10 V output.

Analog Current Loop [Anlg Crnt Loop]
Linear Number: 516
Default Value: 278
Minimum Value: 0
Maximum Value: 797
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with analog current loop transmitter on the Customer Interface Board (CIB). Linear number 278 corresponds to the Speed Reference parameter. This is an isolated 0-20 or 4-20 mA (programmable) output.

Analog Meter 1 Scale [Anlg Meter1 Scle]
Linear Number: 521
Default Value: 1.00
Minimum Value: 0.00
Maximum Value: 655.35
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the scale to be used for Analog Meter 1 parameter.

Analog Meter 2 Scale [Anlg Meter2 Scle]
Linear Number: 522
Default Value: 1.00
Minimum Value: 0.00
Maximum Value: 655.35
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the scale to be used for Analog Meter 2 parameter.

Analog Meter 3 Scale [Anlg Meter3 Scle]
Linear Number: 523
Default Value: 1.00
Minimum Value: 0.00
Maximum Value: 655.35
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the scale to be used for Analog Meter 3 parameter.

Analog Meter 4 Scale [Anlg Meter4 Scle]
Linear Number: 524
Default Value: 1.00
Minimum Value: 0.00
Maximum Value: 655.35
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the scale to be used for Analog Meter 4 parameter.

Analog CIB Port 1 Scale [Anlg Port1 Scle]
Linear Number: 183
Default Value: 1.00
Minimum Value: 0.00
Maximum Value: 655.35
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the scale to be used for Analog CIB Port 1 parameter.

Analog CIB Port 2 Scale [Anlg Port2 Scle]
Linear Number: 184
Default Value: 1.00
Minimum Value: 0.00
Maximum Value: 655.35
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the scale to be used for Analog CIB Port 2 parameter.

Analog CIB Port 3 Scale [Anlg Port3 Scle]
Linear Number: 187
Default Value: 1.00
Minimum Value: 0.00
Maximum Value: 655.35
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the scale to be used for Analog CIB Port 3 parameter.

Analog Current Loop Scale [Anlg Crnt Scle]
Linear Number: 188
Default Value: 1.00
Minimum Value: 0.00
Maximum Value: 655.35
Access Level: Basic
Read/Write: Read/Write

This parameter specifies the scale to be used for Analog Current Loop parameter.

Analog Rectifier Tp1 [Anlg Rect Tp1]
Linear Number: 509
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Service
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with analog test point 1 (DAC_TP1) on the rectifier side Signal Conditioning Board (SCBL). This is a non-isolated 0-10 V output.

Analog Rectifier Tp2 [Anlg Rect Tp2]
Linear Number: 510
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Service
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with analog test point 2 (DAC_TP2) on the rectifier side Signal Conditioning Board (SCBL). This is a non-isolated 0-10 V output.

Analog Inverter Tp1 [Anlg Inv Tp1]
Linear Number: 511
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Service
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with analog test point 1 (DAC_TP1) on the inverter side Signal Conditioning Board (SCBM). This is a non-isolated 0-10 V output.

Analog Inverter Tp2 [Anlg Inv Tp2]
Linear Number: 512
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Service
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with analog test point 2 (DAC_TP2) on the inverter side Signal Conditioning Board (SCBM). This is a non-isolated 0-10 V output.

Analog CIB Tp4 [Anlg CIB Tp4]
Linear Number: 508
Default Value: 0
Minimum Value: 0
Maximum Value: 797
Access Level: Service
Read/Write: Read/Write

This parameter specifies the linear number of the parameter associated with analog test point 4 on the Customer Interface Board (CIB). This is a non-isolated 0-10 V output.

XIO Config Parameters

XIO Configuration Errors [XIO Config Errs]
Linear Number: 594
Access Level: Basic
Read/Write: Read Only

This parameter specifies the error in the XIO configuration. A one represents an indicated error, a zero represents no error. The error results from the same slot being assigned to two or more XIO boards, or when the board is not installed in the assigned slot. The following error messages are displayed:

Bit	Enum Text	Description
0	Gnral IO Cfg	General XIO configuration error
1	Gnral IO Cft	General XIO conflict error
2	Opt Flt Cfg	Optional XIO configuration error
3	Opt Flt Cft	Optional XIO conflict error
4	Liq'd IO Cfg	Liquid-Cooled XIO configuration error
5	Liq'd IO Cft	Liquid-Cooled XIO conflict error
6	Logx IO Cfg	Logix XIO configuration error
7	Logx IO Cft	Logix XIO conflict error
8	Unused	
9	Unused	
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

XIO General Input/Output [XIO General IO]
Linear Number: 592
Default Value: Card # 1
Access Level: Basic
Read/Write: Read/Write when Stopped

This parameter specifies the XIO slot number for the General Input Output XIO. General Input Output XIO board comes as part of the standard drive package. Typical value of this parameter is Slot 1.
The following options are available:

Value	Enum Text	Description
0	unassigned	
1	Card # 1	
2	Card # 2	
3	Card # 3	
4	Card # 4	
5	Card # 5	
6	Card # 6	

XIO Liquid Cooling Inputs [XIO Liquid Cool]
Linear Number: 64
Default Value: unassigned
Access Level: Basic
Read/Write: Read/Write when Stopped

This parameter specifies the XIO slot number for the Liquid Cooling System XIO board. Liquid Cooling System XIO board does not come as part of the standard drive package.
The following options are available:

Value	Enum Text	Description
0	unassigned	
1	Card # 1	
2	Card # 2	
3	Card # 3	
4	Card # 4	
5	Card # 5	
6	Card # 6	

XIO Logix Inputs/Outputs [XIO Logix IO]
Linear Number: 686
Default Value: unassigned
Access Level: Basic
Read/Write: Read/Write when Stopped

This parameter specifies the XIO slot number for the Logix IO XIO. This is an option available where the drive can be programmed with basic customer-specific Logical I/O functionality using the 16 isolated inputs and 16 isolated outputs of the XIO board. The following options are available:

Value	Enum Text	Description
0	unassigned	
1	Card # 1	
2	Card # 2	
3	Card # 3	
4	Card # 4	
5	Card # 5	
6	Card # 6	

XIO External Faults [XIO Ext Faults]
Linear Number: 593
Default Value: unassigned
Access Level: Basic
Read/Write: Read/Write when Stopped

This parameter specifies the XIO slot number for the External Faults XIO. External Faults XIO board does not come as part of the standard drive package. The following options are available:

Value	Enum Text	Description
0	unassigned	
1	Card # 1	
2	Card # 2	
3	Card # 3	
4	Card # 4	
5	Card # 5	
6	Card # 6	

XIO Data Parameters

Command Input [Command Input]
Linear Number: 421
Access Level: Advanced
Read/Write: Read Only

This parameter specifies the status of the raw data on the general XIO input before processing. A one represents a true condition into the drive.

Bit	Enum Text	Description
0	Not Stop	
1	Start	
2	Forward	
3	Reverse	
4	Jog	
5	Local	
6	Drive Reset	
7	Synch	
8	Desynch	
9	Unused	
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

General Outputs [General Outputs]
Linear Number: 422
Access Level: Advanced
Read/Write: Read Only

This parameter specifies the status of the general XIO output. A one indicates that the relay output of that specific output signal is closed. If the input to the XIO is powered, it will supply 120V to the associated light or relay.

Bit	Enum Text	Description
0	Ready PL	Drive is in Ready mode.
1	Running PL	Drive is Running mode.
2	Forward PL	Drive is running the motor in Forward direction.
3	Reverse PL	Drive is running the motor in Reverse direction.
4	Jog PL	Drive is running in Jog mode.
5	Local PL	Drive control is in Local mode.
6	Remote PL	Drive control is in Remote mode.
7	Fault PL	Drive is currently in Fault state.
8	Warning PL	Drive is currently in Warning state.
9	Test Mode PL	Drive is in Test Mode
10	At Speed PL	Drive has reached the commanded speed.
11	Cool Alrm PL	Drive cooling system has faulted.
12	Fan1 Ctctr	Turn Cooling Fan 1 on.
13	Fan2 Ctctr	Turn Redundant Cooling Fan 2 on.
14	Sync Xfer	Drive is in Synch or DeSynch mode.
15	At Torq Lmt	Drive is running in Torque Limit.

Fixed Fault Input [Fixd Fault Input]
Linear Number: 431
Access Level: Advanced
Read/Write: Read Only

This parameter specifies the state of the fault inputs on the standard XIO card. If there is a fault, the corresponding bit in this parameter will go from one to zero, indicating a loss of the 120V signal to the XIO card. This parameter is further processed by the drive control according to the corresponding class parameter in Fault Configuration group. The final result is updated in the parameter Fixed Fault. If a fixed fault input is not used it should be masked or tied high. There are 6 fixed fault inputs and the Fan status, shown below:

Bit	Enum Text	Description
0	Input Protn1	Input Protection 1 fault
1	Xfmr/LR OT	Isolation Transformer/Line Reactor Overtemperature fault
2	DC Link OT	DC Link / Common-Mode Choke Overtemperature fault
3	Motor Prot'n	Motor Protection fault
4	Fan Status	Main Cooling Fan Status Feedback
5	Input Protn2	Input Protection 2 fault
6	Aux Prot'n	Auxiliary Protection fault
7	Unused	

External Fault Input [Ext Fault XIO]
Linear Number: 232
Access Level: Advanced
Read/Write: Read Only

This parameter specifies the state of the external fault inputs on the optional XIO card. There are 16 external fault inputs available, from External 1 to External 16. If there is a fault, the corresponding bit in this parameter will go to zero, indicating a loss of the 120V signal to the XIO card. This parameter is further processed by the drive control according to the corresponding class parameter in Fault Configuration group.The final result is updated in the parameter External Fault. If an external fault input is not used it should be masked or tied high. The text that appears when a fault is indicated could be changed.

Optional Outputs [Optional Outputs]
Linear Number: 427
Access Level: Advanced
Read/Write: Read Only

This parameter specifies the state of the outputs on the optional XIO card. There are 16 outputs available, from External 1 to External 16. They are currently not all used. A one indicates that the specific output of the card is closed.

Bit	Enum Text	Description
0	Field Enable	The Field Current is Enabled (Synchronous Motors)
1	Field Start	The start command to provide Field Current (Synchronous Motors)
2	Drv Stopping	The drive has been given a stop/Class 2 fault and is ramping down
3	Auto Restart	The drive is currently timing the autorestart timer, waiting for MV
4	Outbit 4	Unused
5	Outbit 5	Unused
6	Outbit 6	Unused
7	Outbit 7	Unused
8	Outbit 8	Unused
9	Outbit 9	Unused
10	Outbit 10	Unused
11	Outbit 11	Unused
12	Outbit 12	Unused
13	Outbit 13	Unused
14	Outbit 14	Unused
15	Outbit 15	Unused

Liquid Inputs [Liquid Inputs]
Linear Number: 52
Access Level: Service
Read/Write: Read Only

This parameter specifies the state of the inputs on the XIO card assigned for the Liquid Cooling System. There are 16 inputs available, from External 1 to External 16. They are currently not all used. A one indicates that the specific input of the card is active, and a zero means that specific input is missing.

Bit	Enum Text	Description
0	Pump Aux 1	Pump 1 Control Relay Auxiliary
1	Pump Aux 2	Pump 2 Control Relay Auxiliary
2	Fan Aux 1	Fan 1 Control Relay Auxiliary
3	Fan Aux 2	Fan 2 Control Relay Auxiliary
4	Fan Aux 3	Fan 3 Control Relay Auxiliary
5	Fan Aux 4	Fan 4 Control Relay Auxiliary
6	Unused	
7	DC Link Flow	DC Link Flow Measurement Switch Feedback
8	Disconct Sw.	The Cooling System Disconnect switch feedback
9	Low Pressure	Cooling System Low Pressure Indication
10	Low Level	Cooling System Low Level Warning Indication
11	Level Trip	Cooling System Low Level Fault Indication
12	Cond High	Cooling System Conductivity Warning Indication
13	Cond Trip	Cooling System Conductivity Fault Indication
14	Pmp Select#1	Pump #1 has been selected as the active Pump
15	Pmp Select#2	Pump #2 has been selected as the active Pump

Liquid Outputs [Liquid Outputs]
Linear Number: 14
Access Level: Service
Read/Write: Read Only

This parameter specifies the state of the outputs on the XIO card assigned for the Liquid Cooling System. There are 16 outputs available, from External 1 to External 16. They are currently not all used. A one indicates that the specific output of the card is closed.

Bit	Enum Text	Description
0	Pump Ctctr 1	Pump Contactor 1 output is active
1	Pump Ctctr 2	Pump Contactor 2 output is active
2	Fan Ctctr 1	Fan Contactor 1 output is active
3	Fan Ctctr 2	Fan Contactor 2 output is active
4	Fan Ctctr 3	Fan Contactor 3 output is active
5	Fan Ctctr 4	Fan Contactor 4 output is active
6	Unused	
7	Unused	
8	Unused	
9	Unused	
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

Logix Inputs [Logix Inputs]
Linear Number: 687
Access Level: Service
Read/Write: Read Only

This parameter represents the inputs on the optional Logix IO XIO board.

Bit	Enum Text	Description
0	Input #1	Input #1
1	Input #2	Input #2
2	Input #3	Input #3
3	Input #4	Input #4
4	Input #5	Input #5
5	Input #6	Input #6
6	Input #7	Input #7
7	Input #8	Input #8
8	Input #9	Input #9
9	Input #10	Input #10
10	Input #11	Input #11
11	Input #12	Input #12
12	Input #13	Input #13
13	Input #14	Input #14
14	Input #15	Input #15
15	Input #16	Input #16

Logix Outputs [Logix Outputs]
Linear Number: 688
Access Level: Service
Read/Write: Read Only

This parameter represents the outputs on the optional Logix IO XIO board.

Bit	Enum Text	Description
0	Output#1	Output#1
1	Output#2	Output#2
2	Output#3	Output#3
3	Output#4	Output#4
4	Output#5	Output#5
5	Output#6	Output#6
6	Output#7	Output#7
7	Output#8	Output#8
8	Output#9	Output#9
9	Output#10	Output#10
10	Output#11	Output#11
11	Output#12	Output#12
12	Output#13	Output#13
13	Output#14	Output#14
14	Output#15	Output#15
15	Output#16	Output#16

Logix XIO Register A [Logix Register A]
Linear Number: 714
Default Value: 0
Minimum Value: 0
Maximum Value: 65535
Access Level: Service
Read/Write: Read/Write

This parameter is reserved for future-use only, and represents a register within the drive that will have the ability to be written to remotely. There is no code in the firmware utilizing this register.

Logix XIO Register B [Logix Register B]
Linear Number: 715
Default Value: 0
Minimum Value: 0
Maximum Value: 65535
Access Level: Service
Read/Write: Read/Write

This parameter is reserved for future-use only, and represents a register within the drive that will have the ability to be written to remotely. There is no code in the firmware utilizing this register.

Metering Parameters

Current Meter [Current Meter]
Linear Number: 361
Minimum Value: 0 A
Maximum Value: 1500 A
Access Level: Basic
Read/Write: Read Only

This parameter is the measured RMS value of the motor current. It is used by the programming terminal and may also be assigned to analog output to drive an optional analog meter.

Power Meter [Power Meter]
Linear Number: 364
Minimum Value: -15000 kW
Maximum Value: 15000 kW
Access Level: Basic
Read/Write: Read Only

This parameter is the measured motor output power in kW. It is used by the programming terminal and may also be assigned to analog output to drive an optional analog meter.

Speed Meter [Speed Meter]
Linear Number: 363
Minimum Value: -4500 rpm
Maximum Value: 4500 rpm
Access Level: Basic
Read/Write: Read Only

This parameter is the measured rotor speed in RPM. It is used by the programming terminal and may also be assigned to analog output to drive an optional analog meter.

Voltage Meter [Voltage Meter]
Linear Number: 362
Minimum Value: 0 V
Maximum Value: 8000 V
Access Level: Basic
Read/Write: Read Only

This parameter is the measured RMS motor terminal voltage (line to line). It is used by the programming terminal and may also be assigned to analog output to drive an optional analog meter.

PWM Parameters

Inverter Pulse Number [Inv Pulse Number]
Linear Number: 295
Minimum Value: 0
Maximum Value: 60000
Access Level: Service
Read/Write: Read Only

This parameter indicates the number of pulses per cycle in the switching pattern for the inverter.

Rectifier Pulse Number [Rec Pulse Number]
Linear Number: 95
Minimum Value: 0
Maximum Value: 15
Access Level: Service
Read/Write: Read Only

This parameter indicates the number of pulses per cycle in the switching pattern for the rectifier on PWM Rectifier drives.

Inverter Pulse-Width Modulation Pattern [Inv PWM Pattern]
Linear Number: 378
Access Level: Service
Read/Write: Read Only

This parameter specifies the PWM firing pattern that is being utilized by the inverter SGCTs. Depending on the operating condition, you could be firing the inverter in three different PWM patterns.

The following table illustrates typically at what speeds each pattern is utilized:

Synchronous Trapezoidal	(Medium speed)
Selective Harmonic Elimination	(High speed)
Asynchronous Trapezoidal	(Low Speed)

Here are the possible patterns for the Inverter:

Value	Enum Text	Description
0	Synch Trap	Synchronous Trapezoidal
1	SHE	Selective Harmonic Elimination
2	Asynch Trap	Asynchronous Trapezoidal
3	Pattern 3	Not Currently Used
4	Pattern 4	Not Currently Used
5	Pattern 5	Not Currently Used

Idc 3 Pulse [Idc 3 Pulse]
Linear Number: 756
Minimum Value: 0.000 pu
Maximum Value: 10.000 pu
Access Level: Service
Read/Write: Read Only

The dc current thresholds where the drive changes pulse numbers are now displayed as variables. This shows DC current thresholds when Pulse changes to 3.

Idc 5 Pulse [Idc 5 Pulse]
Linear Number: 757
Minimum Value: 0.000 pu
Maximum Value: 10.000 pu
Access Level: Service
Read/Write: Read Only

The dc current thresholds where the drive changes pulse numbers are now displayed as variables. This shows DC current thresholds when Pulse changes to 5.

Line PWM Frequency Max [LinePWM Freq max]
Linear Number: 155
Default Value: 440 Hz
Minimum Value: 100 Hz
Maximum Value: 1000 Hz
Access Level: Service
Read/Write: Read/Write

This parameter is valid for PWM rectifier drives only and specifies the maximum switching frequency of the power semiconductor devices.

Motor PWM Frequency Max [Mtr PWM Freq max]
Linear Number: 154
Default Value: 440 Hz
Minimum Value: 100 Hz
Maximum Value: 1000 Hz
Access Level: Service
Read/Write: Read/Write

This parameter specifies the maximum switching frequency of the power semiconductor devices used in the inverter.

DC Voltage Reference: 5-Pulse to 3-Pulse Rectifier Switching [Vdc Ref 5p to 3p]
Linear Number: 379
Default Value: 0.10 pu
Minimum Value: 0.00 pu
Maximum Value: 1.50 pu
Access Level: Service
Read/Write: Read/Write

This parameter specifies the point at which we can force the rectifier to switch from 5-pulse firing to 3-pulse firing for PWM rectifiers using the DC Voltage Reference. The purpose of this parameter is to allow us to reduce the amount of losses and heating in the rectifier by reducing the switching pulse number. If the Line DC Voltage drops below the programmed value, the drive will switch from 5-pulse to 3-pulse.

DC Voltage Reference: 7-Pulse to 5-Pulse Rectifier Switching [Vdc Ref 7p to 5p]
Linear Number: 465
Default Value: 0.50 pu
Minimum Value: 0.00 pu
Maximum Value: 1.50 pu
Access Level: Service
Read/Write: Read/Write

This parameter specifies the point at which we can force the rectifier to switch from 7-pulse firing to 5-pulse firing for PWM rectifiers using the DC Voltage Reference. The purpose of this parameter is to allow us to reduce the amount of losses and heating in the rectifier by reducing the switching pulse number. If the Line DC Voltage drops below the programmed value, the drive will switch from 7-pulse to 5-pulse.

DC Current Reference: 5-Pulse to 3-Pulse Rectifier Switching [Idc Fac 3p to 5p]
Linear Number: 560
Default Value: 1.00
Minimum Value: 0.00
Maximum Value: 2.00
Access Level: Service
Read/Write: Read/Write

This parameter specifies the point at which we can force the rectifier to switch from 5-pulse firing to 3-pulse firing for PWM rectifiers using the DC Current Feedback. The purpose of this parameter is to allow us to reduce the amount of losses and heating in the rectifier by reducing the switching pulse number when the current is too high. For normal drive operation, this parameter does not need to be changed from the default of 1.00 pu because most drives can run in 7-pulse mode for the full DC Current Range. If the DC Current Feedback increases above the programmed value, the drive will switch from 5-pulse to 3-pulse.

DC Current Reference: 7-Pulse to 5-Pulse Rectifier Switching [Idc Fac 7p to 5p]
Linear Number: 640
Default Value: 1.00
Minimum Value: 0.00
Maximum Value: 2.00
Access Level: Service
Read/Write: Read/Write

This parameter specifies the point at which we can force the rectifier to switch from 7-pulse firing to 5-pulse firing for PWM rectifiers using the DC Current Feedback. The purpose of this parameter is to allow us to reduce the amount of losses and heating in the rectifier by reducing the switching pulse number when the current is too high. For normal drive operation, this parameter does not need to be changed from the default of 1.00 pu because most drives can run in 7-pulse mode for the full DC Current Range. If the DC Current Feedback increases above the programmed value, the drive will switch from 7-pulse to 5-pulse.

Liquid Cooling Parameters

Coolant Temperature C [Coolant Temp C]
Linear Number: 380
Minimum Value: 0 C
Maximum Value: 65535 C
Access Level: Service
Read/Write: Read Only

This parameter specifies the coolant temperature C on a PowerFlex 7000 Liquid-Cooled drive.

Coolant Temperature F [Coolant Temp F]
Linear Number: 381
Minimum Value: 0 F
Maximum Value: 65535 F
Access Level: Service
Read/Write: Read Only

Used on C-Frame drives. This is temperature signal into the drive control.

Cooling Flags [Cooling Flags]
Linear Number: 449
Minimum Value: 0000 Hex
Maximum Value: FFFF Hex
Access Level: Service
Read/Write: Read Only

This parameter is reserved for future use.

Fan Configuration for Liquid-Cooled Drive Heat Exchangers [Fan Config]
Linear Number: 477
Default Value: 3 In-line
Access Level: Service
Read/Write: Read/Write

This parameter specifies the fan configuration for the heat exchanger used on PowerFlex Liquid-Cooled drives. This parameter lets the drive know how many fans are installed, and their configuration. The control can then properly turn the fans on and cool the system. The following are the available configurations:

Value	Enum Text	Description
0	3 In-line	3 fans across the heat exchanger in series
1	4 Block	4 fans in a square configuration
2	4 Redundant	4 fans in a square configuration, but one is redundant
3	No Fans	No fans (Liquid-to-Liquid heat exchanger)
4	Style #5	Reserved for Future Use

Liquid Temperature Warning [Liq Temp Warning]
Linear Number: 478
Default Value: 49 C
Minimum Value: 35 C
Maximum Value: 85 C
Access Level: Service
Read/Write: Read/Write

This parameter specifies the value of coolant temperature that will initiate a Coolant Temperature warning. The temperature is measured from a thermistor in the cooling system.

Liquid Temperature Trip [Liq Temp Trip]
Linear Number: 483
Default Value: 54 C
Minimum Value: 35 C
Maximum Value: 85 C
Access Level: Service
Read/Write: Read/Write

This parameter specifies the value of coolant temperature that will initiate a Coolant Temperature fault. The temperature is measured from a thermistor in the cooling system.

Analog Calibrtn Parameters

Reference Filter [Reference Filter]
Linear Number: 487
Default Value: 5.0 Hz
Minimum Value: 0.0 Hz
Maximum Value: 500.0 Hz
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the filter for the analog Reference Command inputs to the CIB. This allows the drive to filter out any noise on the input analog signals. The filter is active only for the analog Reference Commands, and if you set Reference Select to one of the digital inputs, the filter is not used. This allows for faster reference updates on digital signals, which are more immune to noise anyway. 0.0 Hz disables the filter.

Input 4 Filter [Input 4 Filter]
Linear Number: 652
Default Value: 1.0 Hz
Minimum Value: 0.0 Hz
Maximum Value: 500.0 Hz
Access Level: Service
Read/Write: Read/Write when Stopped

This parameter specifies the filter for the Cabinet Pressure Input to the CIB. This allows the drive to filter out any noise on this input voltage signal. 0.0 Hz will disable the filter.

Security Parameters

Port Mask Act [Port Mask Act]
Linear Number: 708
Access Level: Advanced
Read/Write: Read Only

This read-only parameter provides access to the current value of the Port Mask Active attribute for diagnostic purposes. There is a bit for each port on the host, indicating whether the port is enabled or disabled. When bit 15 is set, it indicates that FactoryTalk Security or some other Advanced Security tool has set the Port Mask Active attribute.

Port Logic Mask [Port Logic Mask]
Linear Number: 709
Default Value: 0000000001111111
Access Level: Advanced
Read/Write: Read/Write

The parameter is used to configure the value of the Logic Mask Active attribute unless the “Advanced” bit is set in the attribute. If the “Advanced” bit is already set in the Logic Mask Active attribute, the value last written to the attribute is used until a new value is written directly to the attribute. If the bit for a port is set to “0”, the port will have no control functions of the drive except for stop.

Bit	Enum Text	Description
0	Host	
1	DPI Port1	
2	DPI Port2	
3	DPI Port3	
4	DPI Port4	
5	DPI Port5	
6	DPI Port6	
7	Reserved	
8	Reserved	
9	Reserved	
10	Reserved	
11	Reserved	
12	Reserved	
13	Reserved	
14	Reserved	
15	Reserved	

Logic Mask Act [Logic Mask Act]
Linear Number: 710
Access Level: Advanced
Read/Write: Read Only

This parameter provides read-only access to the current value of the Logic Mask Active attribute for diagnostic purposes. When bit 15 is set, it indicates that FactoryTalk Security or some other Advanced Security tool has set the Logic Mask Active attribute. If the bit for a port is set to “0”, the port will have no control functions of the drive except for stop.

Write Mask Cfg [Write Mask Cfg]
Linear Number: 711
Default Value: 0000000001111111
Access Level: Advanced
Read/Write: Read/Write

The parameter is used to program the Write Mask Active attribute when power is cycled to the drive. Each bit in the parameter controls whether the device attached to the DPI port can write to parameters or links.

Bit	Enum Text	Description
0	Host	
1	DPI Port1	
2	DPI Port2	
3	DPI Port3	
4	DPI Port4	
5	DPI Port5	
6	DPI Port6	
7	Reserved	
8	Reserved	
9	Reserved	
10	Reserved	
11	Reserved	
12	Reserved	
13	Reserved	
14	Reserved	
15	Reserved	

Write Mask Act [Write Mask Act]
Linear Number: 712
Access Level: Advanced
Read/Write: Read Only

This parameter provides read-only access to the current value of the write Mask Active attribute for diagnostic purposes. When bit 15 is set, it indicates that FactoryTalk security or some other Advanced Security tool has set the Write Mask Active attribute. Each bit in the parameter controls whether the device attached to the DPI port can write to parameters or links.

Parallel Drive Parameters

Drive ID [Drive ID]
Linear Number: 716
Default Value: 0
Minimum Value: 0
Maximum Value: 7
Access Level: Advanced
Read/Write: Read/Write when Stopped

This parameter specifies the identity of an individual drive in a parallel drive system. All drives in a system should have unique ID numbers. If two drives are programmed with the same ID number, the first drive to be powered up will take ownership of the ID number and the other drive will be dropped off the Drive Area Network. Drive ID numbers do not have to be consecutive, there can be gaps in the sequence (e.g. 0, 1, 3). Usually, Drive ID numbers cannot be freely assigned but are predetermined by the node addresses of the system controller (PLC).

Powerup Config [Powerup Config]
Linear Number: 717
Default Value: Single Drive
Access Level: Advanced
Read/Write: Read/Write

This parameter defines the role that the drive will assume when the control is powered up.

Value	Enum Text	Description
0	Single Drive	Drive not part of a parallel drive system-default
1	Master	Master drive in a parallel drive system
2	Slave	Slave drive in a parallel drive system

If more than one drive in a parallel drive system is programmed as Master, the first drive to be powered up will become the master and the other drives will become slaves.

Master Mask [Master Mask]
Linear Number: 718
Default Value: 11111111
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies which drives in a parallel drive system are allowed to become master. A value of 1 indicates that the corresponding drive can become master if required. A value of 0 indicates that the corresponding drive will refuse to take on the role of master. Eight bits are defined:

Bit	Enum Text	Description
0	Drive 0	Drive 0 is selected to become master if required
1	Drive 1	Drive 1 is selected to become master if required
2	Drive 2	Drive 2 is selected to become master if required
3	Drive 3	Drive 3 is selected to become master if required
4	Drive 4	Drive 4 is selected to become master if required
5	Drive 5	Drive 5 is selected to become master if required
6	Drive 6	Drive 6 is selected to become master if required
7	Drive 7	Drive 7 is selected to become master if required

Acting Master ID [Acting Master ID]
Linear Number: 719
Default Value: 0
Minimum Value: 0
Maximum Value: 8
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies the Drive ID of the drive that is currently acting as master or has been requested to become the master. For a master drive, this parameter will normally be the same as the Drive ID for that drive. Setting this parameter to the ID of another drive in the system will cause the master to attempt to transfer control to the specified drive. For a slave drive, this parameter will have a value of 8, which is an invalid value for Drive ID.

PD Fault Word [PD Fault Word]
Linear Number: 720
Access Level: Advanced
Read/Write: Read Only

This is the parallel drive fault word.

Bit	Enum Text	Description
0	Comm Timeout	Drive has lost communications with the master
1	Mstr Xfer Er	Master Transfer Error
2	Unused	
3	Unused	
4	Unused	
5	Unused	
6	Unused	
7	Unused	
8	Slave 0 Comm	Master has lost communication with Drive 0
9	Slave 1 Comm	Master has lost communication with Drive 1
10	Slave 2 Comm	Master has lost communication with Drive 2
11	Slave 3 Comm	Master has lost communication with Drive 3
12	Slave 4 Comm	Master has lost communication with Drive 4
13	Slave 5 Comm	Master has lost communication with Drive 5
14	Slave 6 Comm	Master has lost communication with Drive 6
15	Slave 7 Comm	Master has lost communication with Drive 7

PD Warning Word [PD Warning Word]
Linear Number: 721
Access Level: Advanced
Read/Write: Read Only

This is the parallel drive warning word.

Bit	Enum Text	Description
0	Duplcte Mstr	Duplicate Master-master only
1	Dclnd Mstr	Slave Declined Master- slave only
2	Slv RfsdMstr	Slave Refused Master- master only
3	Invld Mstr R	Invalid Master Request- slave only
4	Xfer Disable	Transfer Disabled- master only
5	Unused	
6	Unused	
7	Unused	
8	Slave 0 OffL	Slave 0 Offline- master only
9	Slave 1 OffL	Slave 1 Offline- master only
10	Slave 2 OffL	Slave 2 Offline- master only
11	Slave 3 OffL	Slave 3 Offline- master only
12	Slave 4 OffL	Slave 4 Offline- master only
13	Slave 5 OffL	Slave 5 Offline- master only
14	Slave 6 OffL	Slave 6 Offline- master only
15	Slave 7 OffL	Slave 7 Offline- master only

PD Flags [PD Flags]
Linear Number: 722
Default Value: 0000000000000000
Access Level: Service
Read/Write: Read/Write

This parameter is the parallel drive flag word. Four bits are defined:

Bit	Enum Text	Description
0	Node Reset	Node Reset, set to clear parallel drives faults and warnings reset automatically after faults cleared
1	Active Mstr	Active Master- this drive is the current master
2	Pass Mastr	Pass Master- this drive is attempting to pass mastership
3	Pass Mstr En	Pass Master Enabled-Pass Master is allowed for this drive
4	Unused	
5	Unused	
6	Unused	
7	Unused	
8	Unused	
9	Unused	
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

PD Status [PD Status]
Linear Number: 723
Access Level: Service
Read/Write: Read Only

This variable specifies the status of this drive in a parallel drive system. It is sent to the master drive where it is displayed as Drive *n* Status, where *n* is the drive ID. Eight bits are defined:

Bit	Enum Text	Description
0	Ready	Drive is ready
1	Running	Drive is running
2	Faulted	Drive has a fault condition
3	Class 1 Flt	Drive has a class 1 fault
4	Class 2 Flt	Drive has a class 2 fault
5	Hub Comm OK	Communications between the drive and the hub PLC is functional
6	Input Clsed	Drive input contactor is closed
7	Output Clsed	Drive output contactor is closed
8	Unused	
9	Unused	
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

Drive0 Status [Drive0 Status]
Linear Number: 724
Access Level: Advanced
Read/Write: Read Only

These eight variables display the status of all the drives in a parallel drive system. They are valid in the master drive only, and will have a value of zero in all slave drives. The definition is the same as *PD Status*.
Refer Parameter # 723 bit information.

Drive1 Status [Drive1 Status]
Linear Number: 725
Access Level: Advanced
Read/Write: Read Only

These eight variables display the status of all the drives in a parallel drive system. They are valid in the master drive only, and will have a value of zero in all slave drives. The definition is the same as *PD Status*.
Refer Parameter # 723 bit information.

Drive2 Status [Drive2 Status]
Linear Number: 726
Access Level: Advanced
Read/Write: Read Only

These eight variables display the status of all the drives in a parallel drive system. They are valid in the master drive only, and will have a value of zero in all slave drives. The definition is the same as *PD Status*.
Refer Parameter # 723 bit information.

Drive3 Status [Drive3 Status]
Linear Number: 727
Access Level: Advanced
Read/Write: Read Only

These eight variables display the status of all the drives in a parallel drive system. They are valid in the master drive only, and will have a value of zero in all slave drives. The definition is the same as *PD Status*.
Refer Parameter # 723 bit information.

Drive4 Status [Drive4 Status]
Linear Number: 728
Access Level: Advanced
Read/Write: Read Only

These eight variables display the status of all the drives in a parallel drive system. They are valid in the master drive only, and will have a value of zero in all slave drives. The definition is the same as *PD Status*.
Refer Parameter # 723 bit information.

Drive5 Status [Drive5 Status]
Linear Number: 729
Access Level: Advanced
Read/Write: Read Only

These eight variables display the status of all the drives in a parallel drive system. They are valid in the master drive only, and will have a value of zero in all slave drives. The definition is the same as *PD Status*.
Refer Parameter # 723 bit information.

Drive6 Status [Drive6 Status]
Linear Number: 730
Access Level: Advanced
Read/Write: Read Only

These eight variables display the status of all the drives in a parallel drive system. They are valid in the master drive only, and will have a value of zero in all slave drives. The definition is the same as *PD Status*.
Refer Parameter # 723 bit information.

Drive7 Status [Drive7 Status]
Linear Number: 731
Access Level: Advanced
Read/Write: Read Only

These eight variables display the status of all the drives in a parallel drive system. They are valid in the master drive only, and will have a value of zero in all slave drives. The definition is the same as *PD Status*.
Refer Parameter # 723 bit information.

Master Flux Ref [Master Flux Ref]
Linear Number: 732
Minimum Value: 0
Maximum Value: 65535
Access Level: Service
Read/Write: Read Only

This variable is the flux reference from the master to all slave drives in a parallel drive system. It is raw data, not converted to engineering units.

Master Torq Ref [Master Torq Ref]
Linear Number: 733
Minimum Value: 0
Maximum Value: 65535
Access Level: Service
Read/Write: Read Only

This variable is the torque reference from the master to all slave drives in a parallel drive system. It is raw data, not converted to engineering units.

Master Isd Cmd [Master Isd Cmd]
Linear Number: 734
Minimum Value: 0
Maximum Value: 65535
Access Level: Service
Read/Write: Read Only

This variable is the magnetizing current command from the master to all slave drives in a parallel drive system. It is raw data, not converted to engineering units.

Master Capacity [Master Capacity]
Linear Number: 737
Minimum Value: 0
Maximum Value: 65535
Access Level: Service
Read/Write: Read Only

This variable is the capacity factor from the master to all slave drives in a parallel drive system. It is raw data, not converted to engineering units.

Master Command [Master Command]
Linear Number: 735
Access Level: Service
Read/Write: Read Only

This variable is the command word from the master to all slave drives in a parallel drive system. Four bits are defined:

Bit	Enum Text	Description
0	Stop	Stop command from master to all slave drives
1	Start	Start command from master to all slave drives
2	Reset	Reset command from master to all slave drives
3	Cmd Reverse	Reverse command from master to all slave drives
4	Unused	
5	Unused	
6	Unused	
7	Unused	
8	Unused	
9	Unused	
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

Sp Slave ID [Sp Slave ID]
Linear Number: 736
Minimum Value: 0
Maximum Value: 8
Access Level: Service
Read/Write: Read Only

This variable identifies the slave drive (0-7) to which the specific(*sp*) commands *Sp Capacity* and *Sp Command* are directed. A value of 8 indicates that no slave drive is selected. It is valid in the master drive only, and always has a value of 8 in slave drives.

Sp Command [Sp Command]
Linear Number: 739
Access Level: Service
Read/Write: Read Only

This variable is the command word from the master to the slave drive identified by *Sp Slave ID*. It has the same definition as *Master Command*.
Refer parameter #735 for bits information

Sp Capacity [Sp Capacity]
Linear Number: 738
Minimum Value: 0
Maximum Value: 65535
Access Level: Service
Read/Write: Read Only

This variable is the capacity factor from the master to the slave drive identified by *Sp Slave ID*.
It is raw data, not converted to engineering units.

PD Flux Ref [PD Flux Ref]
Linear Number: 740
Minimum Value: 0
Maximum Value: 65535
Access Level: Service
Read/Write: Read Only

This variable is the flux reference received from the master. It is raw data, not converted to engineering units.

PD Torq Ref [PD Torq Ref]
Linear Number: 741
Minimum Value: 0
Maximum Value: 65535
Access Level: Service
Read/Write: Read Only

This variable is the torque reference received from the master. It is raw data, not converted to engineering units.

PD Isd Cmd [PD Isd Cmd]
Linear Number: 742
Minimum Value: 0
Maximum Value: 65535
Access Level: Service
Read/Write: Read Only

This variable is the magnetizing current command received from the master. It is raw data, not converted to engineering units.

PD Capacity [PD Capacity]
Linear Number: 746
Minimum Value: 0
Maximum Value: 32767
Access Level: Service
Read/Write: Read Only

This variable is the capacity factor of this drive. It is raw data, not converted to engineering units.

PD Command [PD Command]
Linear Number: 743
Access Level: Service
Read/Write: Read Only

This variable is the command word received from the master. It has the same definition as *Master Command*.

Bit	Enum Text	Description
0	Stop	Stop command from master to all slave drives
1	Start	Start command from master to all slave drives
2	Reset	Reset command from master to all slave drives
3	Cmd Reverse	Reverse command from master to all slave drives
4	Unused	
5	Unused	
6	Unused	
7	Unused	
8	Unused	
9	Unused	
10	Unused	
11	Unused	
12	Unused	
13	Unused	
14	Unused	
15	Unused	

Drives in System [Drives in System]
Linear Number: 745
Default Value: 1
Minimum Value: 1
Maximum Value: 4
Access Level: Advanced
Read/Write: Read/Write when Stopped

This parameter specifies the total number of drives in a parallel drive system. This information cannot be obtained by counting the number of drives on the Drive Area Network, because some drives in the system may not be communicating. It is important that this parameter have the correct value because it is used in calculating the rated current feedback of the drive.

$$1.0\ per\ unit\ drive\ current = \frac{Rated\ motor\ amps \times Service\ \ factor}{Drives\ in\ system}$$

Reduced Capacity [Reduced Capacity]
Linear Number: 765
Default Value: Enable
Access Level: Advanced
Read/Write: Read/Write

This parameter specifies whether a parallel drive system is allowed to run with reduced capacity.

Value	Enum Text	Description
0	Disable	system will run only if all drives are available
1	Enable	system will run if at least half the total number of drives are available.

ESP Parameters

Cable Resistance [Cable Resistance]
Linear Number: 750
Default Value: 0.000 ohms
Minimum Value: 0.000 ohms
Maximum Value: 65.535 ohms
Access Level: Service
Read/Write: Read/Write

If the value of *Autotune Rs* is greater than 2.5%, an ESP drive is assumed. In addition a parameter *Cable Resistance* (#750) is used to specify the cable resistance if the cable data is known. When this parameter is non zero, the *R Stator* parameter is updated using this value and *Autotune Rs* is ignored.

Surface Voltage [Surface Voltage]
Linear Number: 760
Minimum Value: 0 V
Maximum Value: 8000 V
Access Level: Basic
Read/Write: Read Only

For ESP applications, the drive output voltage is different from motor voltage. This variable *Surface Voltage* (#760) is used to indicate the motor filter capacitor voltage in Volts. This is calculated from the measured capacitor voltage and compensating for the cable resistance drop using measured motor current. For non-ESP drives, the two variables *V Stator* and *V Motor Fil Cap* will have the same value.

Parameters Listed by Group

Feedback Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
254	RHeatsink Temp C	-40.0	100.0	-	C	Y	Monitor
255	RHeatsink Temp F	-40.0	212.0	-	F	Y	Monitor
252	IHeatsink Temp C	-40.0	100.0	-	C	Y	Monitor
253	IHeatsink Temp F	-40.0	212.0	-	F	Y	Monitor
367	Gnd flt Current	0.0	100.0	-	A	Y	Monitor
500	I Line	0	999	-	A	Y	Monitor
324	V Line	0	8000	-	volt	Y	Monitor
657	Line Frequency	-100.0	100.0	-	Hz	Y	Monitor
262	Drive Not Ready1	-	-	-		Y	Monitor
699	Drive Not Ready2	-	-	-		Y	Monitor
589	V Neutral Line	-2.000	2.000	-	pu	Y	Basic
347	V Neutral Motor	-2.000	2.000	-	pu	Y	Basic
567	Air Filter Block	0.0	100.0	-	%	Y	Basic
568	Air Filter Allow	0.0	100.0	-	%	Y	Basic
597	Parameter Error	0	65535	-		Y	Basic
327	Alpha Line	0.0	180.0	-	deg	Y	Advanced
328	Alpha Machine	-360.0	360.0	-	deg	Y	Advanced
569	Status Flags	-	-	-	Hex	Y	Service
238	Status Flag2	-	-	-	Hex	Y	Service
264	Control Flags L	-	-	-	Hex	Y	Service
160	Control Flags L2	-	-	-	Hex	Y	Service
368	Control Flags L3	-	-	-	Hex	Y	Service
265	Control Flags M	-	-	-	Hex	Y	Service
642	Control Flags M2	-	-	-	Hex	Y	Service
446	Control Flags M3	-	-	-	Hex	Y	Service
682	R Neutral OL	0.00	1.00	-		Y	Service
683	Harmonic Voltage	0.000	32.767	-	pu	Y	Service
447	Pressure Val	-1.0	10.0	-	V	Y	Advanced
653	Pres Val Tx	-10.0	10.0	-	V	Y	Advanced
551	Drive O/L Val	0.00	1.00	-		Y	Service
550	Motor O/L Val	0.00	1.00	-		Y	Service
610	Mstr Volt UB Val	-1.00	1.00	-		Y	Service
611	Slv1 Volt UB Val	-1.00	1.00	-		Y	Service
612	Slv2 Volt UB Val	-1.00	1.00	-		Y	Service
613	Mstr Cur UB Val	-1.00	1.00	-		Y	Service
614	Slv1 Cur UB Val	-1.00	1.00	-		Y	Service
615	Slv2 Cur UB Val	-1.00	1.00	-		Y	Service
619	Flux UB Val	0.00	1.00	-		Y	Service
263	Mtr I UB Val	0.00	1.00	-		Y	Service
428	Byp Volt UB Val	0.00	1.00	-		Y	Service
96	Motor AD/DA Flt1	-	-	-		Y	Service
473	Line AD/DA Flt1	-	-	-		Y	Service
474	Line AD/DA Flt2	-	-	-		Y	Service
764	Cur Sens FltCode	-	-	-		Y	Service
649	Drive VSB Tap	-	-	-		Y	Service
648	Drive VSB Gain	0.0	6553.5	-	V/V	Y	Service
753	Input Power	-15000	15000	-	kW	Y	Service
791	LineCur Neg Seq	-200.0	200.0	-	A	Y	Service
792	LineVolt Neg Seq	0.000	2.000	-	pu	Y	Service
793	Line Cur Unbal	0.00	1.00	-		Y	Service
794	NeutralFund Volt	0.00	1.00	-	pu	Y	Service

Feature Select Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
7	Reference Select	-	-	Local		N	Monitor
4	Operating Mode	-	-	Normal		N	Monitor
590	Rect Gating Test	-	-	Off		N	Service
591	Inv Gating Test	-	-	Off		N	Service
147	Comm Rate	-	-	125K		N	Basic
9	Type of Units	-	-	Imperial		N	Basic
3	Auto Restart Dly	0.0	10.0	0.0	sec	N	Basic
60	Coast Speed	1.0	100.0	2.0	Hz	N	Basic
1	Input ContCfg	-	-	All Faults		N	Basic
5	Output ContCfg	-	-	Not Running		N	Basic
8	Reverse Enable	-	-	Disabled		N	Basic
58	Crrent Loop Xmtr	-	-	4-20 mA		N	Basic
59	Crrent Loop Rcvr	-	-	4-20 mA		N	Basic
781	SpecialFeatures1	-	-	0000000000000000	Hex	N	Advanced
199	Load Loss Detect	-	-	Disabled		N	Advanced
10	Input Open Delay	0.0	60.0	0.0	min	N	Advanced
583	Input Clse Delay	0	60	0	min	N	Advanced
507	Redundant Dvc	-	-	None		N	Advanced
780	Fault Lock Clear	0	65535	0		N	Service
13	Setup Wizard	-	-	0000000000000000		N	Service
491	Fan1 Run Time	0.1	60.0	30.0	Days	N	Service
493	Fan2 Run Time	0.1	60.0	0.1	Days	N	Service
702	Extended Trend	-	-	Enabled		N	Service
704	Fwd Phase Rot'n	-	-	UVW		N	Service
713	Flying Start	-	-	UniDirection		N	Service
762	Active Discharge	-	-	Disable		N	Service
11	Passcode 0	0	65535	-		Y	Monitor
12	Passcode 1	0	65535	-		Y	Monitor
38	Passcode 2	0	65535	-		Y	Monitor
39	Passcode 3	0	65535	-		Y	Monitor

Drive Hardware Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
30	Drive Motor Type	-	-	Induction		N	Service
176	Drive Model	-	-	B Frame		N	Service
192	IsoSw/Ctctr Cfg	-	-	0000000000000000		N	Service
158	CT Burden Gndflt	10	10000	1000	ohms	N	Service
157	CT Ratio Gndflt	10	10000	2000		N	Service
151	CT Burden Line	1.0	100.0	10.0	ohms	N	Service
149	CT Ratio Line	10	10000	1000		N	Service
285	HCS Burden DClnk	1.0	100.0	50.0	ohms	N	Service
284	HCS Ratio DClnk	10	10000	4000		N	Service
152	HCS Burden Mtr	1.0	100.0	50.0	ohms	N	Service
150	HCS Ratio Mtr	10	10000	4000		N	Service
32	Line Cap Freq	50	60	60	Hz	N	Service
15	Line Cap kvar	1	7500	400	kvar	N	Service
16	Line Cap Volts	1000	10000	4160	V	N	Service
27	Link Inductance	1.0	500.0	24.0	mH	N	Service
28	Mtr Cap Freq	50	90	60	Hz	N	Service
20	Mtr Cap kvar	1	7500	400	kvar	N	Service
21	Mtr Cap Volts	1000	10000	4160	V	N	Service
19	Rated Drive Amps	10	1750	159	A	N	Service
17	Rated Line Freq	50	60	60	Hz	N	Service
18	Rated Line Volts	1000	7200	4160	V	N	Service
153	Rectifier Type	-	-	18 SCR		N	Service
144	Rect Dvc Rating	0	3500	350	A	N	Service
143	Inv Dvc Rating	0	3500	800	A	N	Service
769	Rect Dvc Voltage	0	10000	6500	V	N	Service
770	Inv Dvc Voltage	0	10000	6500	V	N	Service
198	RTemp Fbck Chan	-	-	00000001	Hex	N	Service
197	ITemp Fbck Chan	-	-	00000001	Hex	N	Service
145	Series Rect	1	3	1		N	Service
146	Series Inv	1	3	2		N	Service
624	Line Reactor	0.00	50.00	0.00	mH	N	Service
573	UPS Installed	-	-	No		N	Service
575	Number PwrSup	1	6	1		N	Service
572	Redundant PwrSup	-	-	No		N	Service
141	Redundant Fan	-	-	No		N	Service
680	R Neutral	0.0	6553.5	0.0	ohms	N	Service
681	R Neutral Rating	0	65535	1500	W	N	Service
705	Output Transfrmr	-	-	No		N	Service
751	IsoTx Redunt Fan	-	-	No		N	Service
795	Smallest CapkVAR	0	1000	300	kvar	N	Service
796	RecHeatsink Type	-	-	MM Aluminum		N	Service
797	DC Link Type	-	-	Normal Duty		N	Service

Motor Ratings Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
356	Base Capacitance	0	1000	-	uF	Y	Service
354	Base Current	0	1000	-	A	Y	Service
357	Base Inductance	0	100	-	mH	Y	Service
355	Base Power	0	10000	-	kVA	Y	Service
353	Base Voltage	0	10000	-	V	Y	Service
23	Rated Motor Amps	10	1500	159	A	N	Basic
29	Rated Motor Freq	25	90	60	Hz	N	Basic
25	Rated Motor HP	40	20000	1250	hp	N	Basic
24	Rated Motor kW	30	15000	933	kW	N	Basic
26	Rated Motor RPM	150	3600	1192	rpm	N	Basic
22	Rated Motor Volt	1000	8000	4000	V	N	Basic
31	Service Factor	0.75	1.25	1.00		N	Basic

Autotuning Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
377	Autotune Warning	-	-	-	Hex	Y	Advanced
209	Autotune Select	-	-	Off		N	Advanced
217	Autotune Lc	0.00	0.50	0.00	pu	N	Advanced
218	Autotune Tdc	0.000	0.150	0.000	sec	N	Advanced
219	Autotune Rs	0.00	0.20	0.00	pu	N	Advanced
220	Autotune Ls	0.00	0.50	0.00	pu	N	Advanced
221	Autotune Lm	0.00	15.00	0.00	pu	N	Advanced
222	Autotune T Rotor	0.00	10.00	0.00	sec	N	Advanced
223	Autotune Inertia	0.00	100.00	0.00	sec	N	Advanced
224	Autotune Lmd	0.00	10.00	0.00	pu	N	Advanced
212	Autotune Idc BW	10.0	100.0	50.0	r/s	N	Advanced
210	Autotune Idc Cmd	0.100	0.900	0.500	pu	N	Advanced
211	Autotune Idc Stp	0.000	0.500	0.250	pu	N	Advanced
216	Autotune Isd Stp	0.010	0.200	0.100	pu	N	Advanced
213	Autotune Spd Cmd	20.0	50.0	30.0	Hz	N	Advanced
215	Autotune Trq Stp	0.050	0.500	0.100	pu	N	Advanced
375	Autotune Complte	-	-	0000000000000000		N	Service

Motor Model Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
340	I Stator	0.000	2.000	-	pu	Y	Monitor
344	V Stator	0.000	2.000	-	pu	Y	Monitor
346	Motor Power	-2.000	2.000	-	pu	Y	Monitor
345	Torque	-1.500	1.500	-	pu	Y	Monitor
337	Rotor Frequency	0.00	120.00	-	Hz	Y	Monitor
343	Slip Frequency	-2.00	2.00	-	Hz	Y	Monitor
448	Stator Freq	0.00	120.00	-	Hz	Y	Service
133	Line Filter Cap	0.00	2.00	-	pu	Y	Service
128	Motor Filter Cap	0.00	0.75	-	pu	Y	Service
114	L DC Link	0.00	10.00	-	pu	Y	Service
625	Line Reactor pu	0.00	1.00	-	pu	Y	Service
338	Isd	-2.000	2.000	-	pu	Y	Service
339	Isq	-2.000	2.000	-	pu	Y	Service
690	Vsd	-2.000	2.000	-		Y	Service
691	Vsq	-2.000	2.000	-		Y	Service
134	L Magn Measured	0.00	15.00	-	pu	Y	Service
701	Lm Predicted	0.00	15.00	-	pu	Y	Service
554	V Stator Unfil	0.000	2.000	-	pu	Y	Service
555	I Stator Unfil	0.000	2.000	-	pu	Y	Service
761	V Motor Fil Cap	0.000	2.000	-	pu	Y	Service
692	Mtr Power Factor	0.00	1.00	-		Y	Service
130	L Total Leakage	0.00	0.75	0.25	pu	N	Advanced
129	R Stator	0.0000	0.5000	0.0000	pu	N	Advanced
131	L Magnetizing	1.00	15.00	3.50	pu	N	Advanced
132	T Rotor	0.10	10.00	1.50	sec	N	Advanced
418	Lmd	0.10	10.00	1.00	pu	N	Advanced
693	Lm Regen	0.50	2.00	1.00		N	Service
694	Lm Noload FlxMin	0.50	2.00	1.00		N	Service
695	Lm Noload FlxMax	0.50	2.00	1.00		N	Service

Refernce Command Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
275	Control Refernce	0.0	6553.5	-	Hz	Y	Basic
273	Refernce Fbck	0.0	6553.5	-	Hz	Y	Basic
46	Ref Cmd D max	0.0	120.0	60.0	Hz	N	Basic
45	Ref Cmd D min	0.0	120.0	6.0	Hz	N	Basic
42	Ref Cmd L max	0.0	120.0	60.0	Hz	N	Basic
41	Ref Cmd L min	-120.0	120.0	6.0	Hz	N	Basic
44	Ref Cmd R max	0.0	120.0	60.0	Hz	N	Basic
43	Ref Cmd R min	-120.0	120.0	6.0	Hz	N	Basic

Speed Command Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
277	Speed Command	-100.0	100.0	-	Hz	Y	Basic
276	Speed Command In	-100.0	100.0	-	Hz	Y	Basic
293	Spd Cmd Min	0.0	120.0	6.0	Hz	N	Basic
290	Spd Cmd Max	0.0	120.0	60.0	Hz	N	Basic
40	Preset Jog Speed	1.0	60.0	6.0	Hz	N	Basic
33	Preset Speed 1	0.5	75.0	30.0	Hz	N	Advanced
34	Preset Speed 2	0.5	75.0	35.0	Hz	N	Advanced
35	Preset Speed 3	0.5	75.0	40.0	Hz	N	Advanced

Speed Control Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
278	Speed Reference	-100.0	100.0	-	Hz	Y	Monitor
289	Speed Feedback	-100.0	100.0	-	Hz	Y	Monitor
292	Isq Command	-2.000	2.000	-	pu	Y	Advanced
294	Iy Command	-2.000	2.000	-	pu	Y	Advanced
472	Speed Error	-10.00	10.00	-	Hz	Y	Advanced
61	Total Accel Time	0.0	1200.0	25.0	sec	N	Monitor
62	Total Decel Time	0.0	1200.0	23.0	sec	N	Monitor
63	Inertia Type	-	-	Low		N	Basic
82	Total Inertia	0.10	50.00	1.00	sec	N	Advanced
89	Speed Fdbk Mode	-	-	Sensorless		N	Advanced
81	Spdreg Bandwidth	0.1	15.0	1.0	r/s	N	Advanced
88	Speed Ref Step	0.0	2.0	0.0	Hz	N	Service

Speed Profile Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
481	S Curve Acc1	0.0	999.0	20.0	sec	N	Advanced
482	S Curve Acc2	0.0	999.0	20.0	sec	N	Advanced
479	S Curve Dec1	0.0	999.0	20.0	sec	N	Advanced
480	S Curve Dec2	0.0	999.0	20.0	sec	N	Advanced
475	S Curve Percent	0	100	0	%	N	Advanced
65	Accel Time 1	0.0	1200.0	5.0	sec	N	Advanced
66	Accel Time 2	0.0	1200.0	3.0	sec	N	Advanced
67	Accel Time 3	0.0	1200.0	14.0	sec	N	Advanced
68	Accel Time 4	0.0	1200.0	3.0	sec	N	Advanced
69	Decel Time 1	0.0	300.0	3.0	sec	N	Advanced
70	Decel Time 2	0.0	300.0	3.0	sec	N	Advanced
71	Decel Time 3	0.0	300.0	14.0	sec	N	Advanced
72	Decel Time 4	0.0	300.0	3.0	sec	N	Advanced
73	Ramp Speed 1	5.0	100.0	5.0	Hz	N	Advanced
74	Ramp Speed 2	5.0	100.0	12.0	Hz	N	Advanced
75	Ramp Speed 3	5.0	100.0	54.0	Hz	N	Advanced
76	Ramp Speed 4	5.0	100.0	60.0	Hz	N	Advanced
78	Ramp Start Delay	0.0	10.0	3.0	sec	N	Advanced
53	Skip Spd Band 1	0.0	5.0	0.0	Hz	N	Advanced
54	Skip Spd Band 2	0.0	5.0	0.0	Hz	N	Advanced
55	Skip Spd Band 3	0.0	5.0	0.0	Hz	N	Advanced
49	Skip Speed 1	1.0	90.0	90.0	Hz	N	Advanced
50	Skip Speed 2	1.0	90.0	90.0	Hz	N	Advanced
51	Skip Speed 3	1.0	90.0	90.0	Hz	N	Advanced
80	Ramp Test Step	0.0	30.0	0.0	Hz	N	Service

Current Control Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
321	Idc Reference	0.000	2.000	-	pu	Y	Advanced
322	Idc Feedback	-2.000	2.000	-	pu	Y	Advanced
323	Idc Error	-1.000	1.000	-	pu	Y	Advanced
326	Vdc Reference	-1.000	1.000	-		Y	Advanced
334	Master Line Freq	-100.0	100.0	-	Hz	Y	Service
335	Slave1 Line Freq	-100.0	100.0	-	Hz	Y	Service
239	Slave2 Line Freq	-100.0	100.0	-	Hz	Y	Service
122	I Fbk Line	-2.000	2.000	-	pu	Y	Service
135	V Line Average	0.000	2.000	-	pu	Y	Service
136	Vmaster Average	0.000	2.000	-	pu	Y	Service
137	Vslave1 Average	0.000	2.000	-	pu	Y	Service
138	Vslave2 Average	0.000	2.000	-	pu	Y	Service
696	Vline Bridge	0.000	2.000	-	pu	Y	Service
616	Slv1 Angle	-360.0	360.0	-	deg	Y	Service
617	Slv2 Angle	-360.0	360.0	-	deg	Y	Service
697	I Common Mode	0.00	655.35	-	A	Y	Service
768	I CM Unfil	0.00	655.35	-	A	Y	Service
779	I CM Peak	0.00	655.35	-	A	Y	Service
778	Peak Tran Volt	0.000	2.000	-	pu	Y	Service
767	Bus Tran Level	0.000	32.767	-	pu	Y	Service
684	Bus Tran Trip	0.000	32.767	-	pu	Y	Service
773	Idc Ref Limit	0.000	2.000	-	pu	Y	Service
113	Curreg Bandwidth	50.0	600.0	200.0	r/s	N	Advanced
119	Idc Command Test	0.000	1.500	0.000	pu	N	Advanced
120	Idc Ref Step	0.000	1.000	0.000	pu	N	Advanced
115	T DC Link	0.015	0.150	0.040	sec	N	Advanced
140	L Commutation	0.0000	0.5000	0.0500	pu	N	Service
502	Feedforward Fil	0.0	120.0	2.0	Hz	N	Service

Torque Control Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
291	Torque Reference	-1.500	1.500	-		Y	Advanced
86	Trq Command 0	0.00	1.50	0.15		N	Advanced
87	Trq Command 1	0.00	1.50	0.15		N	Advanced
91	Trq Command Ext	-1.500	1.500	0.000		N	Advanced
90	Trq Control Mode	-	-	Speed Reg		N	Advanced
85	Trq Lmt Braking	0.00	1.50	0.50		N	Advanced
84	Trq Lmt Motoring	0.00	1.50	1.00		N	Advanced
83	Trq Rate Limit	0.00	60.00	10.00		N	Advanced
645	Trq Rate Limit0	0.00	60.00	1.00		N	Advanced
658	Trq Lmt Overload	0.00	1.50	1.00		N	Advanced
641	Trq Cmd0 Tach	0.00	1.50	0.00		N	Service
747	Pwr Lmt Motoring	0.00	1.50	1.50		N	Advanced
748	Pwr Lmt Braking	0.00	1.50	1.50		N	Advanced

Flux Control Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
305	Flux Reference	0.000	2.000	-	pu	Y	Advanced
306	Flux Feedback	0.000	2.000	-	pu	Y	Advanced
307	Flux Error	-2.000	2.000	-	pu	Y	Advanced
342	Flx from Voltage	0.000	1.500	-	pu	Y	Service
341	Flx from Current	0.000	1.500	-	pu	Y	Service
486	Stator Freq C	0.0	100.0	-	Hz	Y	Service
485	Stator Freq V	0.0	100.0	-	Hz	Y	Service
97	Flxreg Bandwidth	1.0	30.0	10.0	r/s	N	Advanced
156	Flux minimum	0.20	2.00	0.20	pu	N	Advanced
98	Base Speed	25.0	100.0	60.0	Hz	N	Service
102	Flx Ref Step	0.000	0.100	0.000	pu	N	Service

Flux Command Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
314	I Field Command	0.000	1.000	-	pu	Y	Advanced
310	Isd Command	-2.000	2.000	-	pu	Y	Advanced
308	Isd Command 0	-2.000	2.000	-	pu	Y	Advanced
309	Isd Command 1	-2.000	2.000	-	pu	Y	Advanced
312	Ix Command	-2.000	2.000	-	pu	Y	Advanced
623	Flux Cmd Limit	0.000	1.500	-	pu	Y	Service
100	Flx Cmd Base Spd	0.000	1.500	0.900	pu	N	Advanced
103	Flx Cmd No Load	0.400	1.500	0.700	pu	N	Advanced
107	Icd Command Gain	0.0	1.0	0.5		N	Advanced
106	If Cmd Bandwidth	0.1	10.0	1.0	r/s	N	Advanced

Fault Config Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
440	InputProt1 Class	-	-	Class 2 Flt		N	Basic
441	Xfmr/LR OT Class	-	-	Class 2 Flt		N	Basic
442	DC Link OT Class	-	-	Class 2 Flt		N	Basic
443	Motor Prot Class	-	-	Class 2 Flt		N	Basic
444	InputProt2 Class	-	-	Class 2 Flt		N	Basic
445	Aux Prot Class	-	-	Class 2 Flt		N	Basic
435	Fixd Fault Mask	-	-	11111111	Hex	N	Basic
651	Ext Fault Selct	-	-	0000000000000000	Hex	N	Basic
200	Ext flt 1 Class	-	-	Class 2 Flt		N	Basic
201	Ext flt 2 Class	-	-	Class 2 Flt		N	Basic
202	Ext flt 3 Class	-	-	Class 2 Flt		N	Basic
203	Ext flt 4 Class	-	-	Class 2 Flt		N	Basic
204	Ext flt 5 Class	-	-	Class 2 Flt		N	Basic
205	Ext flt 6 Class	-	-	Class 2 Flt		N	Basic
206	Ext flt 7 Class	-	-	Class 2 Flt		N	Basic
207	Ext flt 8 Class	-	-	Class 2 Flt		N	Basic
410	Ext flt 9 Class	-	-	Class 2 Flt		N	Basic
411	Ext flt 10 Class	-	-	Class 2 Flt		N	Basic
412	Ext flt 11 Class	-	-	Class 2 Flt		N	Basic
413	Ext flt 12 Class	-	-	Class 2 Flt		N	Basic
414	Ext flt 13 Class	-	-	Class 2 Flt		N	Basic
415	Ext flt 14 Class	-	-	Class 2 Flt		N	Basic
416	Ext flt 15 Class	-	-	Class 2 Flt		N	Basic
417	Ext flt 16 Class	-	-	Class 2 Flt		N	Basic
564	Ext Fault Mask	-	-	1111111111111111	Hex	N	Basic
394	Fault Mask L1	-	-	1111111111111111	Hex	N	Basic
395	Fault Mask L2	-	-	1111111111111111	Hex	N	Basic
396	Fault Mask L3	-	-	1111111111111111	Hex	N	Basic
561	Fault Mask M1	-	-	1111111111111111	Hex	N	Basic
562	Fault Mask M2	-	-	1111111111111111	Hex	N	Basic
563	Fault Mask M3	-	-	1111111111111111	Hex	N	Basic
397	Warning Mask L1	-	-	1111111111111111	Hex	N	Basic
647	Warning Mask L2	-	-	1111111111111111	Hex	N	Basic
565	Warning Mask M1	-	-	1111111111111111	Hex	N	Basic
423	Warning Mask M2	-	-	1111111111111111	Hex	N	Basic
468	Warning Mask M3	-	-	1111111111111111	Hex	N	Basic
707	Warning Mask M4	-	-	1111111111111111	Hex	N	Basic
759	Warning Mask PD	-	-	1111111111111111	Hex	N	Service
104	Power Fault Mask	-	-	1111111111111111	Hex	N	Basic
105	Power Warn Mask	-	-	1111111111111111	Hex	N	Basic
175	Adptr Loss Mask	-	-	0000000000000000	Hex	N	Basic
749	Speed Cmd Loss	-	-	Fault		N	Basic
703	Liq Cool Mask	-	-	1111111111111111		N	Basic
420	Dvc Flt Mask	-	-	1111111111111111	Hex	N	Service

Faults Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
433	Fixed Fault	-	-	-	Hex	Y	Service
434	Fixed Warning	-	-	-	Hex	Y	Service
372	External Fault	-	-	-	Hex	Y	Service
429	External Warning	-	-	-	Hex	Y	Service
279	Fault Flag L1	-	-	-	Hex	Y	Service
280	Fault Flag L2	-	-	-	Hex	Y	Service
281	Fault Flag L3	-	-	-	Hex	Y	Service
369	Fault Flag M1	-	-	-	Hex	Y	Service
370	Fault Flag M2	-	-	-	Hex	Y	Service
371	Fault Flag M3	-	-	-	Hex	Y	Service
57	Fault Flag CIB	-	-	-	Hex	Y	Service
282	Warning Flag L1	-	-	-	Hex	Y	Service
646	Warning Flag L2	-	-	-		Y	Service
373	Warning Flag M1	-	-	-	Hex	Y	Service
374	Warning Flag M2	-	-	-	Hex	Y	Service
467	Warning Flag M3	-	-	-	Hex	Y	Service
706	Warning Flag M4	-	-	-	Hex	Y	Service
758	Warning Flag PD	-	-	-	Hex	Y	Service
56	Warning Flag CIB	-	-	-	Hex	Y	Service
287	Ctrl Pwr Fault	-	-	-	Hex	Y	Service
288	Ctrl Pwr Warning	-	-	-	Hex	Y	Service
93	Adapter Loss Flt	-	-	-	Hex	Y	Service
148	Adapter Loss Wrn	-	-	-	Hex	Y	Service
596	XIO Adaptr Loss	-	-	-	Hex	Y	Service
650	Ext Fault PLC	-	-	0000000000000000		N	Service
358	Liquid Cool Flt	-	-	0000000000000000	Hex	N	Service
359	Liquid Cool Wrn	-	-	0000000000000000	Hex	N	Service
490	Fault Output	0	1	-		Y	Service
700	Warning Output	0	1	-		Y	Service

Line Protection Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
169	DC O/C Trip	0.10	2.00	1.75	pu	N	Advanced
170	DC O/C Delay	0.000	0.040	0.010	sec	N	Advanced
171	Gnd flt O/C Trip	0.05	10.00	0.50	A	N	Advanced
172	Gnd flt O/C Dly	0.00	5.00	0.10	sec	N	Advanced
173	Line DC O/V Trip	0.50	1.60	1.50	pu	N	Advanced
174	Line DC O/V Dly	0.000	0.040	0.020	sec	N	Advanced
108	Line I U/B Trip	0.01	1.15	0.05	pu	N	Advanced
109	Line I U/B Delay	0.01	5.00	1.00	sec	N	Advanced
161	Line O/C Trip	0.00	2.00	1.50	pu	N	Advanced
162	Line O/C Delay	0.000	0.040	0.010	sec	N	Advanced
163	Drive O/L Trip	0.20	2.00	1.15	pu	N	Advanced
164	Drive O/L Delay	0.0	61.0	60.0	sec	N	Advanced
269	Drive O/L min	0.20	1.15	1.05	pu	N	Advanced
270	Drive O/L wrn	0.20	1.15	0.50		N	Advanced
772	Drv O/L Duty Cyc	0.0	900.0	600.0	Sec	N	Advanced
165	Line O/V Trip	0.00	1.50	1.20	pu	N	Advanced
166	Line O/V Delay	0.000	10.000	0.100	sec	N	Advanced
167	Line U/V Trip	0.40	1.50	0.85	pu	N	Advanced
168	Line U/V Delay	0.008	0.040	0.017	sec	N	Advanced
271	Line V U/B Trip	0.01	1.15	0.05	pu	N	Advanced
272	Line V U/B Delay	0.01	5.00	1.00	sec	N	Advanced
587	Line Neut OV Trp	0.00	1.50	0.40	pu	N	Advanced
588	Line Neut OV Dly	0.00	5.00	1.00	sec	N	Advanced
675	Harmonic O/V Trp	0.00	10.00	0.30	pu	N	Advanced
676	Harmonic O/V Dly	0.00	10.00	1.00	sec	N	Advanced
673	Bus Tran Trp Fac	0.00	100.00	2.50	pu	N	Service
674	Bus Tran Delay	0	100	2		N	Service
677	Bus Tran Min Trp	0.00	10.00	0.30	pu	N	Service
678	Bus Tran Idc Fac	0.00	10.00	0.50	pu	N	Service
679	Min Freewheel T	0.000	1.000	0.016	sec	N	Service
112	R HS Temp Wrn	0	100	53	C	N	Service
111	R HS Temp Trip	0	100	55	C	N	Service
266	Rec Dvc Diag Dly	0	6	2		N	Service
698	Line Loss Trip	0.0	40.0	8.0	Hz	N	Service
774	R Neutral OL Trp	0.00	655.35	5.00		N	Service
775	R Neutral OL Dly	0.00	655.35	2.50	Sec	N	Service
776	R Neutral OC Trp	0.00	655.35	10.00		N	Service
777	R Neutral OC Dly	0.000	65.535	0.010	Sec	N	Service
782	LineCurUnbal Lvl	0.00	1.00	0.03	pu	N	Service
783	GndCurLvlCapProt	0.0	100.0	10.0	A	N	Service
784	Cap Trip Dly	200	5000	200	msec	N	Service
785	Neg Seq Trip Lvl	0.0	200.0	2.0	A	N	Service
786	Neg Seq Trip Dly	25	5000	200	msec	N	Service
787	Unbalance Ratio	0.0	50.0	1.3		N	Service
788	LineCapStepVolt	0.00	1.50	0.30		N	Service
789	NeutVolt TripLvl	0.00	1.50	0.10	pu	N	Service
790	Trans IdcPeak	0.50	4.00	1.40	pu	N	Service

Motor Protection Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
189	Mtr Neut O/V Trp	0.00	1.50	0.20	pu	N	Advanced
190	Mtr Neut O/V Dly	0.00	5.00	1.00	sec	N	Advanced
177	Motor O/C Trip	0.00	2.00	1.75	pu	N	Advanced
178	Motor O/C Delay	0.000	0.200	0.100	sec	N	Advanced
179	Motor O/L Trip	0.20	2.00	1.15	pu	N	Advanced
180	Motor O/L Delay	0.0	61.0	60.0	sec	N	Advanced
350	Motor O/L min	0.20	1.50	1.05	pu	N	Advanced
351	Motor O/L Wrn	0.20	1.50	0.50		N	Advanced
771	Mtr O/L Duty Cyc	0.0	900.0	600.0	Sec	N	Advanced
181	Motor O/V Trip	0.00	2.00	1.20	pu	N	Advanced
182	Motor O/V Delay	0.000	10.000	0.500	sec	N	Advanced
193	Mtr DC O/V Trip	0.00	2.00	1.50	pu	N	Advanced
194	Mtr DC O/V Delay	0.000	0.040	0.020	sec	N	Advanced
191	Mtr Stall Delay	0.00	10.00	2.00	sec	N	Advanced
185	Overspeed Trip	10.0	100.0	66.0	Hz	N	Advanced
186	Overspeed Delay	0.00	10.00	0.50	sec	N	Advanced
585	Flux UB Trip	0.00	1.00	0.05	pu	N	Advanced
586	Flux UB Delay	0.01	5.00	5.00	sec	N	Advanced
208	Mtr I UB Trip	0.01	1.00	0.05	pu	N	Advanced
214	Mtr I UB Delay	0.01	5.00	5.00	sec	N	Advanced
274	Mtr UB Freq	0.0	100.0	1.5	Hz	N	Service
246	Load Loss Level	0.00	1.00	0.25	pu	N	Advanced
259	Load Loss Spd	0.0	100.0	30.0	Hz	N	Advanced
231	Load Loss Delay	0.0	30.0	1.0	sec	N	Advanced
316	I HS Temp Wrn	0	100	61	C	N	Service
315	I HS Temp Trip	0	100	64	C	N	Service
320	Pres Val Wrn	0.5	10.0	3.0	V	N	Service
319	Pres Val Trip	0.5	10.0	2.5	V	N	Service
317	Pres Val Nominal	0.5	10.0	3.6	V	N	Service
268	Inv Dvc Diag Dly	0	6	2		N	Service
559	Field Loss Dly	1	60	30	sec	N	Service
654	Pres Val Tx Trip	0.5	10.0	2.5	V	N	Service
655	Pres Val Tx Wrn	0.5	10.0	3.0	V	N	Service
656	Pres Val Tx Nom	0.5	10.0	3.6	V	N	Service

Sync Xfer Option Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
298	Sync Reg Output	-10.00	10.00	-	Hz	Y	Advanced
297	Sync Reg Error	-180.0	180.0	-	deg	Y	Advanced
419	Sync Xfer Option	-	-	Disabled		N	Advanced
228	Sync Error max	0	30	0	deg	N	Advanced
226	Sync Lead Angle	-90	90	0	deg	N	Advanced
227	Sync Off Delay	0.000	0.500	0.100	sec	N	Advanced
225	Sync Reg Gain	0.0	5.0	1.0		N	Advanced
229	Sync Time	0.0	10.0	10.0	sec	N	Advanced
230	Sync Xfer Time	0.1	57.0	1.0	min	N	Advanced
117	V Bypass	0.000	2.000	-	pu	Y	Advanced
159	Bypass Freq	-100.0	100.0	-	Hz	Y	Advanced
622	Sync Volt Source	-	-	Bypass		N	Advanced
763	Cap Charge Time	1	10	1	sec	N	Service

Tach Option Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
348	Tach Feedback	-100.0	100.0	-	Hz	Y	Basic
349	Tach Fbk Debug	-100.00	100.00	-	Hz	Y	Service
233	Tach Type	-	-	None		N	Basic
234	Tach pulse/rev	120	4096	1024	ppr	N	Basic
643	Enc Direction	-	-	Forward		N	Advanced
644	Encoder Offset	0	360	0	deg	N	Advanced
235	Tach Loss Trip	0.0	10.0	2.0	Hz	N	Service
236	Tach Loss Delay	0.00	1.00	0.10	sec	N	Service

Control Masks Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
244	Direction Mask	-	-	11111111	Hex	N	Basic
245	Jog Mask	-	-	11111111	Hex	N	Basic
242	Local Mask	-	-	11111111	Hex	N	Basic
241	Logic Mask	-	-	11111111	Hex	N	Basic
248	Ref Cmd Mask	-	-	11111111	Hex	N	Basic
247	Reset Mask	-	-	11111111	Hex	N	Basic
243	Start Mask	-	-	11111111	Hex	N	Basic
249	Sync Xfer Mask	-	-	11111111	Hex	N	Basic
638	Forced Flt Mask	-	-	11111111	Hex	N	Basic
36	Profile Mask	-	-	11111111	Hex	N	Basic

Owners Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
388	Direction Owner	-	-	-	Hex	Y	Monitor
389	Jog Owner	-	-	-	Hex	Y	Monitor
386	Local Owner	-	-	-	Hex	Y	Monitor
392	Ref Cmd Owner	-	-	-	Hex	Y	Monitor
391	Reset Owner	-	-	-	Hex	Y	Monitor
387	Start Owner	-	-	-	Hex	Y	Monitor
385	Stop Owner	-	-	-	Hex	Y	Monitor
393	Sync Xfer Owner	-	-	-	Hex	Y	Monitor
639	Forced Flt Owner	-	-	-	Hex	Y	Monitor
37	Profile Owner	-	-	-	Hex	Y	Monitor
94	Logic Owner	-	-	-	Hex	Y	Monitor

Logic I/O Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
260	Local Inputs	-	-	-	Hex	Y	Monitor
261	Local Outputs	-	-	-	Hex	Y	Monitor
257	Logic Command	-	-	-	Hex	Y	Monitor
258	Logic Status	-	-	-	Hex	Y	Monitor
464	SCBL Inputs	-	-	-	Hex	Y	Basic
766	SCBL Outputs Cmd	-	-	-	Hex	Y	Basic
462	SCBL Outputs	-	-	-	Hex	Y	Basic
463	SCBM Inputs	-	-	-	Hex	Y	Basic
461	SCBM Outputs	-	-	-	Hex	Y	Basic

Adapter I/O Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
376	PLC Error Flags	-	-	-	Hex	Y	Basic
529	PLC In Link A1	0	797	0		N	Basic
530	PLC In Link A2	0	797	0		N	Basic
531	PLC In Link B1	0	797	0		N	Basic
532	PLC In Link B2	0	797	0		N	Basic
533	PLC In Link C1	0	797	0		N	Basic
534	PLC In Link C2	0	797	0		N	Basic
535	PLC In Link D1	0	797	0		N	Basic
536	PLC In Link D2	0	797	0		N	Basic
537	PLC Out Link A1	0	797	0		N	Basic
538	PLC Out Link A2	0	797	0		N	Basic
539	PLC Out Link B1	0	797	0		N	Basic
540	PLC Out Link B2	0	797	0		N	Basic
541	PLC Out Link C1	0	797	0		N	Basic
542	PLC Out Link C2	0	797	0		N	Basic
543	PLC Out Link D1	0	797	0		N	Basic
544	PLC Out Link D2	0	797	0		N	Basic

Analog Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
517	Anlg Meter1	0	797	361		N	Basic
518	Anlg Meter2	0	797	362		N	Basic
519	Anlg Meter3	0	797	363		N	Basic
520	Anlg Meter4	0	797	364		N	Basic
513	Anlg CIB Port1	0	797	0		N	Basic
514	Anlg CIB Port2	0	797	0		N	Basic
515	Anlg CIB Port3	0	797	0		N	Basic
516	Anlg Crnt Loop	0	797	278		N	Basic
521	Anlg Meter1 Scle	0.00	655.35	1.00		N	Basic
522	Anlg Meter2 Scle	0.00	655.35	1.00		N	Basic
523	Anlg Meter3 Scle	0.00	655.35	1.00		N	Basic
524	Anlg Meter4 Scle	0.00	655.35	1.00		N	Basic
183	Anlg Port1 Scle	0.00	655.35	1.00		N	Basic
184	Anlg Port2 Scle	0.00	655.35	1.00		N	Basic
187	Anlg Port3 Scle	0.00	655.35	1.00		N	Basic
188	Anlg Crnt Scle	0.00	655.35	1.00		N	Basic
509	Anlg Rect Tp1	0	797	0		N	Service
510	Anlg Rect Tp2	0	797	0		N	Service
511	Anlg Inv Tp1	0	797	0		N	Service
512	Anlg Inv Tp2	0	797	0		N	Service
508	Anlg CIB Tp4	0	797	0		N	Service

XIO Config Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
594	XIO Config Errs	-	-	-		Y	Basic
592	XIO General IO	-	-	Card # 1		N	Basic
64	XIO Liquid Cool	-	-	unassigned		N	Basic
686	XIO Logix IO	-	-	unassigned		N	Basic
593	XIO Ext Faults	-	-	unassigned		N	Basic

XIO Data Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
421	Command Input	-	-	-	Hex	Y	Advanced
422	General Outputs	-	-	-	Hex	Y	Advanced
431	Fixd Fault Input	-	-	-	Hex	Y	Advanced
232	Ext Fault XIO	-	-	-	Hex	Y	Advanced
427	Optional Outputs	-	-	-	Hex	Y	Advanced
52	Liquid Inputs	-	-	-	Hex	Y	Service
14	Liquid Outputs	-	-	-	Hex	Y	Service
687	Logix Inputs	-	-	-	Hex	Y	Service
688	Logix Outputs	-	-	-	Hex	Y	Service
714	Logix Register A	0	65535	0		N	Service
715	Logix Register B	0	65535	0		N	Service

Metering Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
361	Current Meter	0	1500	-	A	Y	Basic
364	Power Meter	-15000	15000	-	kW	Y	Basic
363	Speed Meter	-4500	4500	-	rpm	Y	Basic
362	Voltage Meter	0	8000	-	V	Y	Basic

PWM Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
295	Inv Pulse Number	0	60000	-		Y	Service
95	Rec Pulse Number	0	15	-		Y	Service
378	Inv PWM Pattern	-	-	-		Y	Service
756	Idc 3 Pulse	0.000	10.000	-	pu	Y	Service
757	Idc 5 Pulse	0.000	10.000	-	pu	Y	Service
155	LinePWM Freq max	100	1000	440	Hz	N	Service
154	Mtr PWM Freq max	100	1000	440	Hz	N	Service
379	Vdc Ref 5p to 3p	0.00	1.50	0.10	pu	N	Service
465	Vdc Ref 7p to 5p	0.00	1.50	0.50	pu	N	Service
560	Idc Fac 3p to 5p	0.00	2.00	1.00		N	Service
640	Idc Fac 7p to 5p	0.00	2.00	1.00		N	Service

Liquid Cooling Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
380	Coolant Temp C	0	65535	-	C	Y	Service
381	Coolant Temp F	0	65535	-	F	Y	Service
449	Cooling Flags	0000	FFFF	-	Hex	Y	Service
477	Fan Config	-	-	3 In-line		N	Service
478	Liq Temp Warning	35	85	49	C	N	Service
483	Liq Temp Trip	35	85	54	C	N	Service

Analog Calibrtn Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
487	Reference Filter	0.0	500.0	5.0	Hz	N	Service
652	Input 4 Filter	0.0	500.0	1.0	Hz	N	Service

Security Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
708	Port Mask Act	-	-	-		Y	Advanced
709	Port Logic Mask	-	-	0000000001111111		N	Advanced
710	Logic Mask Act	-	-	-		Y	Advanced
711	Write Mask Cfg	-	-	0000000001111111		N	Advanced
712	Write Mask Act	-	-	-		Y	Advanced

Parallel Drive Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
716	Drive ID	0	7	0		N	Advanced
717	Powerup Config	-	-	Single Drive		N	Advanced
718	Master Mask	-	-	11111111		N	Advanced
719	Acting Master ID	0	8	0		N	Advanced
720	PD Fault Word	-	-	-		Y	Advanced
721	PD Warning Word	-	-	-		Y	Advanced
722	PD Flags	-	-	0000000000000000		N	Service
723	PD Status	-	-	-		Y	Service
724	Drive0 Status	-	-	-		Y	Advanced
725	Drive1 Status	-	-	-		Y	Advanced
726	Drive2 Status	-	-	-		Y	Advanced
727	Drive3 Status	-	-	-		Y	Advanced
728	Drive4 Status	-	-	-		Y	Advanced
729	Drive5 Status	-	-	-		Y	Advanced
730	Drive6 Status	-	-	-		Y	Advanced
731	Drive7 Status	-	-	-		Y	Advanced
732	Master Flux Ref	0	65535	-		Y	Service
733	Master Torq Ref	0	65535	-		Y	Service
734	Master Isd Cmd	0	65535	-		Y	Service
737	Master Capacity	0	65535	-		Y	Service
735	Master Command	-	-	-		Y	Service
736	Sp Slave ID	0	8	-		Y	Service
739	Sp Command	-	-	-		Y	Service
738	Sp Capacity	0	65535	-		Y	Service
740	PD Flux Ref	0	65535	-		Y	Service
741	PD Torq Ref	0	65535	-		Y	Service
742	PD Isd Cmd	0	65535	-		Y	Service
746	PD Capacity	0	32767	-		Y	Service
743	PD Command	-	-	-		Y	Service
745	Drives in System	1	4	1		N	Advanced
765	Reduced Capacity	-	-	Enable		N	Advanced

ESP Parameters

	Name	Min.	Max.	Default	Units	Read-Only	Access
750	Cable Resistance	0.000	65.535	0.000	ohms	N	Service
760	Surface Voltage	0	8000	-	V	Y	Basic

Parameters Listed by Linear Number

	Name	Min.	Max.	Default	Units	Read-Only	Access
1	Input ContCfg	-	-	All Faults		N	Basic
3	Auto Restart Dly	0.0	10.0	0.0	sec	N	Basic
4	Operating Mode	-	-	Normal		N	Monitor
5	Output ContCfg	-	-	Not Running		N	Basic
7	Reference Select	-	-	Local		N	Monitor
8	Reverse Enable	-	-	Disabled		N	Basic
9	Type of Units	-	-	Imperial		N	Basic
10	Input Open Delay	0.0	60.0	0.0	min	N	Advanced
11	Passcode 0	0	65535	-		Y	Monitor
12	Passcode 1	0	65535	-		Y	Monitor
13	Setup Wizard	-	-	0000000000000000		N	Service
14	Liquid Outputs	-	-	-		Y	Service
15	Line Cap kvar	1	7500	400	kvar	N	Service
16	Line Cap Volts	1000	10000	4160	V	N	Service
17	Rated Line Freq	50	60	60	Hz	N	Service
18	Rated Line Volts	1000	7200	4160	V	N	Service
19	Rated Drive Amps	10	1750	159	A	N	Service
20	Mtr Cap kvar	1	7500	400	kvar	N	Service
21	Mtr Cap Volts	1000	10000	4160	V	N	Service
22	Rated Motor Volt	1000	8000	4000	V	N	Basic
23	Rated Motor Amps	10	1500	159	A	N	Basic
24	Rated Motor kW	30	15000	933	kW	N	Basic
25	Rated Motor HP	40	20000	1250	hp	N	Basic
26	Rated Motor RPM	150	3600	1192	rpm	N	Basic
27	Link Inductance	1.0	500.0	24.0	mH	N	Service
28	Mtr Cap Freq	50	90	60	Hz	N	Service
29	Rated Motor Freq	25	90	60	Hz	N	Basic
30	Drive Motor Type	-	-	Induction		N	Service
31	Service Factor	0.75	1.25	1.00		N	Basic
32	Line Cap Freq	50	60	60	Hz	N	Service
33	Preset Speed 1	0.5	75.0	30.0	Hz	N	Advanced
34	Preset Speed 2	0.5	75.0	35.0	Hz	N	Advanced
35	Preset Speed 3	0.5	75.0	40.0	Hz	N	Advanced
36	Profile Mask	-	-	11111111		N	Basic
37	Profile Owner	-	-	-		Y	Monitor
38	Passcode 2	0	65535	-		Y	Monitor
39	Passcode 3	0	65535	-		Y	Monitor
40	Preset Jog Speed	1.0	60.0	6.0	Hz	N	Basic
41	Ref Cmd L min	-120.0	120.0	6.0	Hz	N	Basic
42	Ref Cmd L max	0.0	120.0	60.0	Hz	N	Basic
43	Ref Cmd R min	-120.0	120.0	6.0	Hz	N	Basic
44	Ref Cmd R max	0.0	120.0	60.0	Hz	N	Basic
45	Ref Cmd D min	0.0	120.0	6.0	Hz	N	Basic
46	Ref Cmd D max	0.0	120.0	60.0	Hz	N	Basic
49	Skip Speed 1	1.0	90.0	90.0	Hz	N	Advanced
50	Skip Speed 2	1.0	90.0	90.0	Hz	N	Advanced
51	Skip Speed 3	1.0	90.0	90.0	Hz	N	Advanced
52	Liquid Inputs	-	-	-		Y	Service
53	Skip Spd Band 1	0.0	5.0	0.0	Hz	N	Advanced
54	Skip Spd Band 2	0.0	5.0	0.0	Hz	N	Advanced
55	Skip Spd Band 3	0.0	5.0	0.0	Hz	N	Advanced
56	Warning Flag CIB	-	-	-		Y	Service

	Name	Min.	Max.	Default	Units	Read-Only	Access
57	Fault Flag CIB	-	-	-		Y	Service
58	Crrent Loop Xmtr	-	-	4-20 mA		N	Basic
59	Crrent Loop Rcvr	-	-	4-20 mA		N	Basic
60	Coast Speed	1.0	100.0	2.0	Hz	N	Basic
61	Total Accel Time	0.0	1200.0	25.0	sec	N	Monitor
62	Total Decel Time	0.0	1200.0	23.0	sec	N	Monitor
63	Inertia Type	-	-	Low		N	Basic
64	XIO Liquid Cool	-	-	unassigned		N	Basic
65	Accel Time 1	0.0	1200.0	5.0	sec	N	Advanced
66	Accel Time 2	0.0	1200.0	3.0	sec	N	Advanced
67	Accel Time 3	0.0	1200.0	14.0	sec	N	Advanced
68	Accel Time 4	0.0	1200.0	3.0	sec	N	Advanced
69	Decel Time 1	0.0	300.0	3.0	sec	N	Advanced
70	Decel Time 2	0.0	300.0	3.0	sec	N	Advanced
71	Decel Time 3	0.0	300.0	14.0	sec	N	Advanced
72	Decel Time 4	0.0	300.0	3.0	sec	N	Advanced
73	Ramp Speed 1	5.0	100.0	5.0	Hz	N	Advanced
74	Ramp Speed 2	5.0	100.0	12.0	Hz	N	Advanced
75	Ramp Speed 3	5.0	100.0	54.0	Hz	N	Advanced
76	Ramp Speed 4	5.0	100.0	60.0	Hz	N	Advanced
78	Ramp Start Delay	0.0	10.0	3.0	sec	N	Advanced
80	Ramp Test Step	0.0	30.0	0.0	Hz	N	Service
81	Spdreg Bandwidth	0.1	15.0	1.0	r/s	N	Advanced
82	Total Inertia	0.10	50.00	1.00	sec	N	Advanced
83	Trq Rate Limit	0.00	60.00	10.00		N	Advanced
84	Trq Lmt Motoring	0.00	1.50	1.00		N	Advanced
85	Trq Lmt Braking	0.00	1.50	0.50		N	Advanced
86	Trq Command 0	0.00	1.50	0.15		N	Advanced
87	Trq Command 1	0.00	1.50	0.15		N	Advanced
88	Speed Ref Step	0.0	2.0	0.0	Hz	N	Service
89	Speed Fdbk Mode	-	-	Sensorless		N	Advanced
90	Trq Control Mode	-	-	Speed Reg		N	Advanced
91	Trq Command Ext	-1.500	1.500	0.000		N	Advanced
93	Adapter Loss Flt	-	-	-		Y	Service
94	Logic Owner	-	-	-		Y	Monitor
95	Rec Pulse Number	0	15	-		Y	Service
96	Motor AD/DA Flt1	-	-	-		Y	Service
97	Flxreg Bandwidth	1.0	30.0	10.0	r/s	N	Advanced
98	Base Speed	25.0	100.0	60.0	Hz	N	Service
100	Flx Cmd Base Spd	0.000	1.500	0.900	pu	N	Advanced
102	Flx Ref Step	0.000	0.100	0.000	pu	N	Service
103	Flx Cmd No Load	0.400	1.500	0.700	pu	N	Advanced
104	Power Fault Mask	-	-	1111111111111111		N	Basic
105	Power Warn Mask	-	-	1111111111111111		N	Basic
106	If Cmd Bandwidth	0.1	10.0	1.0	r/s	N	Advanced
107	Icd Command Gain	0.0	1.0	0.5		N	Advanced
108	Line I U/B Trip	0.01	1.15	0.05	pu	N	Advanced
109	Line I U/B Delay	0.01	5.00	1.00	sec	N	Advanced
111	R HS Temp Trip	0	100	55	C	N	Service
112	R HS Temp Wrn	0	100	53	C	N	Service
113	Curreg Bandwidth	50.0	600.0	200.0	r/s	N	Advanced
114	L DC Link	0.00	10.00	-	pu	Y	Service
115	T DC Link	0.015	0.150	0.040	sec	N	Advanced
117	V Bypass	0.000	2.000	-	pu	Y	Advanced
119	Idc Command Test	0.000	1.500	0.000	pu	N	Advanced
120	Idc Ref Step	0.000	1.000	0.000	pu	N	Advanced
122	I Fbk Line	-2.000	2.000	-	pu	Y	Service

	Name	Min.	Max.	Default	Units	Read-Only	Access
128	Motor Filter Cap	0.00	0.75	-	pu	Y	Service
129	R Stator	0.0000	0.5000	0.0000	pu	N	Advanced
130	L Total Leakage	0.00	0.75	0.25	pu	N	Advanced
131	L Magnetizing	1.00	15.00	3.50	pu	N	Advanced
132	T Rotor	0.10	10.00	1.50	sec	N	Advanced
133	Line Filter Cap	0.00	2.00	-	pu	Y	Service
134	L Magn Measured	0.00	15.00	-	pu	Y	Service
135	V Line Average	0.000	2.000	-	pu	Y	Service
136	Vmaster Average	0.000	2.000	-	pu	Y	Service
137	Vslave1 Average	0.000	2.000	-	pu	Y	Service
138	Vslave2 Average	0.000	2.000	-	pu	Y	Service
140	L Commutation	0.0000	0.5000	0.0500	pu	N	Service
141	Redundant Fan	-	-	No		N	Service
143	Inv Dvc Rating	0	3500	800	A	N	Service
144	Rect Dvc Rating	0	3500	350	A	N	Service
145	Series Rect	1	3	1		N	Service
146	Series Inv	1	3	2		N	Service
147	Comm Rate	-	-	125K		N	Basic
148	Adapter Loss Wrn	-	-	-		Y	Service
149	CT Ratio Line	10	10000	1000		N	Service
150	HCS Ratio Mtr	10	10000	4000		N	Service
151	CT Burden Line	1.0	100.0	10.0	ohms	N	Service
152	HCS Burden Mtr	1.0	100.0	50.0	ohms	N	Service
153	Rectifier Type	-	-	18 SCR		N	Service
154	Mtr PWM Freq max	100	1000	440	Hz	N	Service
155	LinePWM Freq max	100	1000	440	Hz	N	Service
156	Flux minimum	0.20	2.00	0.20	pu	N	Advanced
157	CT Ratio Gndflt	10	10000	2000		N	Service
158	CT Burden Gndflt	10	10000	1000	ohms	N	Service
159	Bypass Freq	-100.0	100.0	-	Hz	Y	Advanced
160	Control Flags L2	-	-	-		Y	Service
161	Line O/C Trip	0.00	2.00	1.50	pu	N	Advanced
162	Line O/C Delay	0.000	0.040	0.010	sec	N	Advanced
163	Drive O/L Trip	0.20	2.00	1.15	pu	N	Advanced
164	Drive O/L Delay	0.0	61.0	60.0	sec	N	Advanced
165	Line O/V Trip	0.00	1.50	1.20	pu	N	Advanced
166	Line O/V Delay	0.000	10.000	0.100	sec	N	Advanced
167	Line U/V Trip	0.40	1.50	0.85	pu	N	Advanced
168	Line U/V Delay	0.008	0.040	0.017	sec	N	Advanced
169	DC O/C Trip	0.10	2.00	1.75	pu	N	Advanced
170	DC O/C Delay	0.000	0.040	0.010	sec	N	Advanced
171	Gnd flt O/C Trip	0.05	10.00	0.50	A	N	Advanced
172	Gnd flt O/C Dly	0.00	5.00	0.10	sec	N	Advanced
173	Line DC O/V Trip	0.50	1.60	1.50	pu	N	Advanced
174	Line DC O/V Dly	0.000	0.040	0.020	sec	N	Advanced
175	Adptr Loss Mask	-	-	0000000000000000		N	Basic
176	Drive Model	-	-	B Frame		N	Service
177	Motor O/C Trip	0.00	2.00	1.75	pu	N	Advanced
178	Motor O/C Delay	0.000	0.200	0.100	sec	N	Advanced
179	Motor O/L Trip	0.20	2.00	1.15	pu	N	Advanced
180	Motor O/L Delay	0.0	61.0	60.0	sec	N	Advanced
181	Motor O/V Trip	0.00	2.00	1.20	pu	N	Advanced
182	Motor O/V Delay	0.000	10.000	0.500	sec	N	Advanced
183	Anlg Port1 Scle	0.00	655.35	1.00		N	Basic
184	Anlg Port2 Scle	0.00	655.35	1.00		N	Basic
185	Overspeed Trip	10.0	100.0	66.0	Hz	N	Advanced
186	Overspeed Delay	0.00	10.00	0.50	sec	N	Advanced

	Name	Min.	Max.	Default	Units	Read-Only	Access
187	Anlg Port3 Scle	0.00	655.35	1.00		N	Basic
188	Anlg Crnt Scle	0.00	655.35	1.00		N	Basic
189	Mtr Neut O/V Trp	0.00	1.50	0.20	pu	N	Advanced
190	Mtr Neut O/V Dly	0.00	5.00	1.00	sec	N	Advanced
191	Mtr Stall Delay	0.00	10.00	2.00	sec	N	Advanced
192	IsoSw/Ctctr Cfg	-	-	0000000000000000		N	Service
193	Mtr DC O/V Trip	0.00	2.00	1.50	pu	N	Advanced
194	Mtr DC O/V Delay	0.000	0.040	0.020	sec	N	Advanced
197	ITemp Fbck Chan	-	-	00000001		N	Service
198	RTemp Fbck Chan	-	-	00000001		N	Service
199	Load Loss Detect	-	-	Disabled		N	Advanced
200	Ext flt 1 Class	-	-	Class 2 Flt		N	Basic
201	Ext flt 2 Class	-	-	Class 2 Flt		N	Basic
202	Ext flt 3 Class	-	-	Class 2 Flt		N	Basic
203	Ext flt 4 Class	-	-	Class 2 Flt		N	Basic
204	Ext flt 5 Class	-	-	Class 2 Flt		N	Basic
205	Ext flt 6 Class	-	-	Class 2 Flt		N	Basic
206	Ext flt 7 Class	-	-	Class 2 Flt		N	Basic
207	Ext flt 8 Class	-	-	Class 2 Flt		N	Basic
208	Mtr I UB Trip	0.01	1.00	0.05	pu	N	Advanced
209	Autotune Select	-	-	Off		N	Advanced
210	Autotune Idc Cmd	0.100	0.900	0.500	pu	N	Advanced
211	Autotune Idc Stp	0.000	0.500	0.250	pu	N	Advanced
212	Autotune Idc BW	10.0	100.0	50.0	r/s	N	Advanced
213	Autotune Spd Cmd	20.0	50.0	30.0	Hz	N	Advanced
214	Mtr I UB Delay	0.01	5.00	5.00	sec	N	Advanced
215	Autotune Trq Stp	0.050	0.500	0.100	pu	N	Advanced
216	Autotune Isd Stp	0.010	0.200	0.100	pu	N	Advanced
217	Autotune Lc	0.00	0.50	0.00	pu	N	Advanced
218	Autotune Tdc	0.000	0.150	0.000	sec	N	Advanced
219	Autotune Rs	0.00	0.20	0.00	pu	N	Advanced
220	Autotune Ls	0.00	0.50	0.00	pu	N	Advanced
221	Autotune Lm	0.00	15.00	0.00	pu	N	Advanced
222	Autotune T Rotor	0.00	10.00	0.00	sec	N	Advanced
223	Autotune Inertia	0.00	100.00	0.00	sec	N	Advanced
224	Autotune Lmd	0.00	10.00	0.00	pu	N	Advanced
225	Sync Reg Gain	0.0	5.0	1.0		N	Advanced
226	Sync Lead Angle	-90	90	0	deg	N	Advanced
227	Sync Off Delay	0.000	0.500	0.100	sec	N	Advanced
228	Sync Error max	0	30	0	deg	N	Advanced
229	Sync Time	0.0	10.0	10.0	sec	N	Advanced
230	Sync Xfer Time	0.1	57.0	1.0	min	N	Advanced
231	Load Loss Delay	0.0	30.0	1.0	sec	N	Advanced
232	Ext Fault XIO	-	-	-		Y	Advanced
233	Tach Type	-	-	None		N	Basic
234	Tach pulse/rev	120	4096	1024	ppr	N	Basic
235	Tach Loss Trip	0.0	10.0	2.0	Hz	N	Service
236	Tach Loss Delay	0.00	1.00	0.10	sec	N	Service
238	Status Flag2	-	-	-		Y	Service
239	Slave2 Line Freq	-100.0	100.0	-	Hz	Y	Service
241	Logic Mask	-	-	11111111		N	Basic
242	Local Mask	-	-	11111111		N	Basic
243	Start Mask	-	-	11111111		N	Basic
244	Direction Mask	-	-	11111111		N	Basic
245	Jog Mask	-	-	11111111		N	Basic
246	Load Loss Level	0.00	1.00	0.25	pu	N	Advanced
247	Reset Mask	-	-	11111111		N	Basic

	Name	Min.	Max.	Default	Units	Read-Only	Access
248	Ref Cmd Mask	-	-	11111111		N	Basic
249	Sync Xfer Mask	-	-	11111111		N	Basic
252	IHeatsink Temp C	-40.0	100.0	-	C	Y	Monitor
253	IHeatsink Temp F	-40.0	212.0	-	F	Y	Monitor
254	RHeatsink Temp C	-40.0	100.0	-	C	Y	Monitor
255	RHeatsink Temp F	-40.0	212.0	-	F	Y	Monitor
257	Logic Command	-	-	-		Y	Monitor
258	Logic Status	-	-	-		Y	Monitor
259	Load Loss Spd	0.0	100.0	30.0	Hz	N	Advanced
260	Local Inputs	-	-	-		Y	Monitor
261	Local Outputs	-	-	-		Y	Monitor
262	Drive Not Ready1	-	-	-		Y	Monitor
263	Mtr I UB Val	0.00	1.00	-		Y	Service
264	Control Flags L	-	-	-		Y	Service
265	Control Flags M	-	-	-		Y	Service
266	Rec Dvc Diag Dly	0	6	2		N	Service
268	Inv Dvc Diag Dly	0	6	2		N	Service
269	Drive O/L min	0.20	1.15	1.05	pu	N	Advanced
270	Drive O/L wrn	0.20	1.15	0.50		N	Advanced
271	Line V U/B Trip	0.01	1.15	0.05	pu	N	Advanced
272	Line V U/B Delay	0.01	5.00	1.00	sec	N	Advanced
273	Refernce Fbck	0.0	6553.5	-	Hz	Y	Basic
274	Mtr UB Freq	0.0	100.0	1.5	Hz	N	Service
275	Control Refernce	0.0	6553.5	-	Hz	Y	Basic
276	Speed Command In	-100.0	100.0	-	Hz	Y	Basic
277	Speed Command	-100.0	100.0	-	Hz	Y	Basic
278	Speed Reference	-100.0	100.0	-	Hz	Y	Monitor
279	Fault Flag L1	-	-	-		Y	Service
280	Fault Flag L2	-	-	-		Y	Service
281	Fault Flag L3	-	-	-		Y	Service
282	Warning Flag L1	-	-	-		Y	Service
284	HCS Ratio DClnk	10	10000	4000		N	Service
285	HCS Burden DClnk	1.0	100.0	50.0	ohms	N	Service
287	Ctrl Pwr Fault	-	-	-		Y	Service
288	Ctrl Pwr Warning	-	-	-		Y	Service
289	Speed Feedback	-100.0	100.0	-	Hz	Y	Monitor
290	Spd Cmd Max	0.0	120.0	60.0	Hz	N	Basic
291	Torque Reference	-1.500	1.500	-		Y	Advanced
292	Isq Command	-2.000	2.000	-	pu	Y	Advanced
293	Spd Cmd Min	0.0	120.0	6.0	Hz	N	Basic
294	Iy Command	-2.000	2.000	-	pu	Y	Advanced
295	Inv Pulse Number	0	60000	-		Y	Service
297	Sync Reg Error	-180.0	180.0	-	deg	Y	Advanced
298	Sync Reg Output	-10.00	10.00	-	Hz	Y	Advanced
305	Flux Reference	0.000	2.000	-	pu	Y	Advanced
306	Flux Feedback	0.000	2.000	-	pu	Y	Advanced
307	Flux Error	-2.000	2.000	-	pu	Y	Advanced
308	Isd Command 0	-2.000	2.000	-	pu	Y	Advanced
309	Isd Command 1	-2.000	2.000	-	pu	Y	Advanced
310	Isd Command	-2.000	2.000	-	pu	Y	Advanced
312	Ix Command	-2.000	2.000	-	pu	Y	Advanced
314	I Field Command	0.000	1.000	-	pu	Y	Advanced
315	I HS Temp Trip	0	100	64	C	N	Service
316	I HS Temp Wrn	0	100	61	C	N	Service
317	Pres Val Nominal	0.5	10.0	3.6	V	N	Service
319	Pres Val Trip	0.5	10.0	2.5	V	N	Service
320	Pres Val Wrn	0.5	10.0	3.0	V	N	Service

	Name	Min.	Max.	Default	Units	Read-Only	Access
321	Idc Reference	0.000	2.000	-	pu	Y	Advanced
322	Idc Feedback	-2.000	2.000	-	pu	Y	Advanced
323	Idc Error	-1.000	1.000	-	pu	Y	Advanced
324	V Line	0	8000	-	volt	Y	Monitor
326	Vdc Reference	-1.000	1.000	-		Y	Advanced
327	Alpha Line	0.0	180.0	-	deg	Y	Advanced
328	Alpha Machine	-360.0	360.0	-	deg	Y	Advanced
334	Master Line Freq	-100.0	100.0	-	Hz	Y	Service
335	Slave1 Line Freq	-100.0	100.0	-	Hz	Y	Service
337	Rotor Frequency	0.00	120.00	-	Hz	Y	Monitor
338	Isd	-2.000	2.000	-	pu	Y	Service
339	Isq	-2.000	2.000	-	pu	Y	Service
340	I Stator	0.000	2.000	-	pu	Y	Monitor
341	Flx from Current	0.000	1.500	-	pu	Y	Service
342	Flx from Voltage	0.000	1.500	-	pu	Y	Service
343	Slip Frequency	-2.00	2.00	-	Hz	Y	Monitor
344	V Stator	0.000	2.000	-	pu	Y	Monitor
345	Torque	-1.500	1.500	-	pu	Y	Monitor
346	Motor Power	-2.000	2.000	-	pu	Y	Monitor
347	V Neutral Motor	-2.000	2.000	-	pu	Y	Basic
348	Tach Feedback	-100.0	100.0	-	Hz	Y	Basic
349	Tach Fbk Debug	-100.00	100.00	-	Hz	Y	Service
350	Motor O/L min	0.20	1.50	1.05	pu	N	Advanced
351	Motor O/L Wrn	0.20	1.50	0.50		N	Advanced
353	Base Voltage	0	10000	-	V	Y	Service
354	Base Current	0	1000	-	A	Y	Service
355	Base Power	0	10000	-	kVA	Y	Service
356	Base Capacitance	0	1000	-	uF	Y	Service
357	Base Inductance	0	100	-	mH	Y	Service
358	Liquid Cool Flt	-	-	0000000000000000		N	Service
359	Liquid Cool Wrn	-	-	0000000000000000		N	Service
361	Current Meter	0	1500	-	A	Y	Basic
362	Voltage Meter	0	8000	-	V	Y	Basic
363	Speed Meter	-4500	4500	-	rpm	Y	Basic
364	Power Meter	-15000	15000	-	kW	Y	Basic
367	Gnd flt Current	0.0	100.0	-	A	Y	Monitor
368	Control Flags L3	-	-	-		Y	Service
369	Fault Flag M1	-	-	-		Y	Service
370	Fault Flag M2	-	-	-		Y	Service
371	Fault Flag M3	-	-	-		Y	Service
372	External Fault	-	-	-		Y	Service
373	Warning Flag M1	-	-	-		Y	Service
374	Warning Flag M2	-	-	-		Y	Service
375	Autotune Complte	-	-	0000000000000000		N	Service
376	PLC Error Flags	-	-	-		Y	Basic
377	Autotune Warning	-	-	-		Y	Advanced
378	Inv PWM Pattern	-	-	-		Y	Service
379	Vdc Ref 5p to 3p	0.00	1.50	0.10	pu	N	Service
380	Coolant Temp C	0	65535	-	C	Y	Service
381	Coolant Temp F	0	65535	-	F	Y	Service
385	Stop Owner	-	-	-		Y	Monitor
386	Local Owner	-	-	-		Y	Monitor
387	Start Owner	-	-	-		Y	Monitor
388	Direction Owner	-	-	-		Y	Monitor
389	Jog Owner	-	-	-		Y	Monitor
391	Reset Owner	-	-	-		Y	Monitor
392	Ref Cmd Owner	-	-	-		Y	Monitor

	Name	Min.	Max.	Default	Units	Read-Only	Access
393	Sync Xfer Owner	-	-	-		Y	Monitor
394	Fault Mask L1	-	-	1111111111111111		N	Basic
395	Fault Mask L2	-	-	1111111111111111		N	Basic
396	Fault Mask L3	-	-	1111111111111111		N	Basic
397	Warning Mask L1	-	-	1111111111111111		N	Basic
410	Ext flt 9 Class	-	-	Class 2 Flt		N	Basic
411	Ext flt 10 Class	-	-	Class 2 Flt		N	Basic
412	Ext flt 11 Class	-	-	Class 2 Flt		N	Basic
413	Ext flt 12 Class	-	-	Class 2 Flt		N	Basic
414	Ext flt 13 Class	-	-	Class 2 Flt		N	Basic
415	Ext flt 14 Class	-	-	Class 2 Flt		N	Basic
416	Ext flt 15 Class	-	-	Class 2 Flt		N	Basic
417	Ext flt 16 Class	-	-	Class 2 Flt		N	Basic
418	Lmd	0.10	10.00	1.00	pu	N	Advanced
419	Sync Xfer Option	-	-	Disabled		N	Advanced
420	Dvc Flt Mask	-	-	1111111111111111		N	Service
421	Command Input	-	-	-		Y	Advanced
422	General Outputs	-	-	-		Y	Advanced
423	Warning Mask M2	-	-	1111111111111111		N	Basic
427	Optional Outputs	-	-	-		Y	Advanced
428	Byp Volt UB Val	0.00	1.00	-		Y	Service
429	External Warning	-	-	-		Y	Service
431	Fixd Fault Input	-	-	-		Y	Advanced
433	Fixed Fault	-	-	-		Y	Service
434	Fixed Warning	-	-	-		Y	Service
435	Fixd Fault Mask	-	-	11111111		N	Basic
440	InputProt1 Class	-	-	Class 2 Flt		N	Basic
441	Xfmr/LR OT Class	-	-	Class 2 Flt		N	Basic
442	DC Link OT Class	-	-	Class 2 Flt		N	Basic
443	Motor Prot Class	-	-	Class 2 Flt		N	Basic
444	InputProt2 Class	-	-	Class 2 Flt		N	Basic
445	Aux Prot Class	-	-	Class 2 Flt		N	Basic
446	Control Flags M3	-	-	-		Y	Service
447	Pressure Val	-1.0	10.0	-	V	Y	Advanced
448	Stator Freq	0.00	120.00	-	Hz	Y	Service
449	Cooling Flags	0000	FFFF	-	Hex	Y	Service
461	SCBM Outputs	-	-	-		Y	Basic
462	SCBL Outputs	-	-	-		Y	Basic
463	SCBM Inputs	-	-	-		Y	Basic
464	SCBL Inputs	-	-	-		Y	Basic
465	Vdc Ref 7p to 5p	0.00	1.50	0.50	pu	N	Service
467	Warning Flag M3	-	-	-		Y	Service
468	Warning Mask M3	-	-	1111111111111111		N	Basic
472	Speed Error	-10.00	10.00	-	Hz	Y	Advanced
473	Line AD/DA Flt1	-	-	-		Y	Service
474	Line AD/DA Flt2	-	-	-		Y	Service
475	S Curve Percent	0	100	0	%	N	Advanced
477	Fan Config	-	-	3 In-line		N	Service
478	Liq Temp Warning	35	85	49	C	N	Service
479	S Curve Dec1	0.0	999.0	20.0	sec	N	Advanced
480	S Curve Dec2	0.0	999.0	20.0	sec	N	Advanced
481	S Curve Acc1	0.0	999.0	20.0	sec	N	Advanced
482	S Curve Acc2	0.0	999.0	20.0	sec	N	Advanced
483	Liq Temp Trip	35	85	54	C	N	Service
485	Stator Freq V	0.0	100.0	-	Hz	Y	Service
486	Stator Freq C	0.0	100.0	-	Hz	Y	Service
487	Reference Filter	0.0	500.0	5.0	Hz	N	Service

	Name	Min.	Max.	Default	Units	Read-Only	Access
490	Fault Output	0	1	-		Y	Service
491	Fan1 Run Time	0.1	60.0	30.0	Days	N	Service
493	Fan2 Run Time	0.1	60.0	0.1	Days	N	Service
500	I Line	0	999	-	A	Y	Monitor
502	Feedforward Fil	0.0	120.0	2.0	Hz	N	Service
507	Redundant Dvc	-	-	None		N	Advanced
508	Anlg CIB Tp4	0	797	0		N	Service
509	Anlg Rect Tp1	0	797	0		N	Service
510	Anlg Rect Tp2	0	797	0		N	Service
511	Anlg Inv Tp1	0	797	0		N	Service
512	Anlg Inv Tp2	0	797	0		N	Service
513	Anlg CIB Port1	0	797	0		N	Basic
514	Anlg CIB Port2	0	797	0		N	Basic
515	Anlg CIB Port3	0	797	0		N	Basic
516	Anlg Crnt Loop	0	797	278		N	Basic
517	Anlg Meter1	0	797	361		N	Basic
518	Anlg Meter2	0	797	362		N	Basic
519	Anlg Meter3	0	797	363		N	Basic
520	Anlg Meter4	0	797	364		N	Basic
521	Anlg Meter1 Scle	0.00	655.35	1.00		N	Basic
522	Anlg Meter2 Scle	0.00	655.35	1.00		N	Basic
523	Anlg Meter3 Scle	0.00	655.35	1.00		N	Basic
524	Anlg Meter4 Scle	0.00	655.35	1.00		N	Basic
529	PLC In Link A1	0	797	0		N	Basic
530	PLC In Link A2	0	797	0		N	Basic
531	PLC In Link B1	0	797	0		N	Basic
532	PLC In Link B2	0	797	0		N	Basic
533	PLC In Link C1	0	797	0		N	Basic
534	PLC In Link C2	0	797	0		N	Basic
535	PLC In Link D1	0	797	0		N	Basic
536	PLC In Link D2	0	797	0		N	Basic
537	PLC Out Link A1	0	797	0		N	Basic
538	PLC Out Link A2	0	797	0		N	Basic
539	PLC Out Link B1	0	797	0		N	Basic
540	PLC Out Link B2	0	797	0		N	Basic
541	PLC Out Link C1	0	797	0		N	Basic
542	PLC Out Link C2	0	797	0		N	Basic
543	PLC Out Link D1	0	797	0		N	Basic
544	PLC Out Link D2	0	797	0		N	Basic
550	Motor O/L Val	0.00	1.00	-		Y	Service
551	Drive O/L Val	0.00	1.00	-		Y	Service
554	V Stator Unfil	0.000	2.000	-	pu	Y	Service
555	I Stator Unfil	0.000	2.000	-	pu	Y	Service
559	Field Loss Dly	1	60	30	sec	N	Service
560	Idc Fac 3p to 5p	0.00	2.00	1.00		N	Service
561	Fault Mask M1	-	-	1111111111111111		N	Basic
562	Fault Mask M2	-	-	1111111111111111		N	Basic
563	Fault Mask M3	-	-	1111111111111111		N	Basic
564	Ext Fault Mask	-	-	1111111111111111		N	Basic
565	Warning Mask M1	-	-	1111111111111111		N	Basic
567	Air Filter Block	0.0	100.0	-	%	Y	Basic
568	Air Filter Allow	0.0	100.0	-	%	Y	Basic
569	Status Flags	-	-	-		Y	Service
572	Redundant PwrSup	-	-	No		N	Service
573	UPS Installed	-	-	No		N	Service
575	Number PwrSup	1	6	1		N	Service
583	Input Clse Delay	0	60	0	min	N	Advanced

	Name	Min.	Max.	Default	Units	Read-Only	Access
585	Flux UB Trip	0.00	1.00	0.05	pu	N	Advanced
586	Flux UB Delay	0.01	5.00	5.00	sec	N	Advanced
587	Line Neut OV Trp	0.00	1.50	0.40	pu	N	Advanced
588	Line Neut OV Dly	0.00	5.00	1.00	sec	N	Advanced
589	V Neutral Line	-2.000	2.000	-	pu	Y	Basic
590	Rect Gating Test	-	-	Off		N	Service
591	Inv Gating Test	-	-	Off		N	Service
592	XIO General IO	-	-	Card # 1		N	Basic
593	XIO Ext Faults	-	-	unassigned		N	Basic
594	XIO Config Errs	-	-	-		Y	Basic
596	XIO Adaptr Loss	-	-	-		Y	Service
597	Parameter Error	0	65535	-		Y	Basic
610	Mstr Volt UB Val	-1.00	1.00	-		Y	Service
611	Slv1 Volt UB Val	-1.00	1.00	-		Y	Service
612	Slv2 Volt UB Val	-1.00	1.00	-		Y	Service
613	Mstr Cur UB Val	-1.00	1.00	-		Y	Service
614	Slv1 Cur UB Val	-1.00	1.00	-		Y	Service
615	Slv2 Cur UB Val	-1.00	1.00	-		Y	Service
616	Slv1 Angle	-360.0	360.0	-	deg	Y	Service
617	Slv2 Angle	-360.0	360.0	-	deg	Y	Service
619	Flux UB Val	0.00	1.00	-		Y	Service
622	Sync Volt Source	-	-	Bypass		N	Advanced
623	Flux Cmd Limit	0.000	1.500	-	pu	Y	Service
624	Line Reactor	0.00	50.00	0.00	mH	N	Service
625	Line Reactor pu	0.00	1.00	-	pu	Y	Service
638	Forced Flt Mask	-	-	11111111		N	Basic
639	Forced Flt Owner	-	-	-		Y	Monitor
640	Idc Fac 7p to 5p	0.00	2.00	1.00		N	Service
641	Trq Cmd0 Tach	0.00	1.50	0.00		N	Service
642	Control Flags M2	-	-	-		Y	Service
643	Enc Direction	-	-	Forward		N	Advanced
644	Encoder Offset	0	360	0	deg	N	Advanced
645	Trq Rate Limit0	0.00	60.00	1.00		N	Advanced
646	Warning Flag L2	-	-	-		Y	Service
647	Warning Mask L2	-	-	1111111111111111		N	Basic
648	Drive VSB Gain	0.0	6553.5	-	V/V	Y	Service
649	Drive VSB Tap	-	-	-		Y	Service
650	Ext Fault PLC	-	-	0000000000000000		N	Service
651	Ext Fault Selct	-	-	0000000000000000		N	Basic
652	Input 4 Filter	0.0	500.0	1.0	Hz	N	Service
653	Pres Val Tx	-10.0	10.0	-	V	Y	Advanced
654	Pres Val Tx Trip	0.5	10.0	2.5	V	N	Service
655	Pres Val Tx Wrn	0.5	10.0	3.0	V	N	Service
656	Pres Val Tx Nom	0.5	10.0	3.6	V	N	Service
657	Line Frequency	-100.0	100.0	-	Hz	Y	Monitor
658	Trq Lmt Overload	0.00	1.50	1.00		N	Advanced
673	Bus Tran Trp Fac	0.00	100.00	2.50	pu	N	Service
674	Bus Tran Delay	0	100	2		N	Service
675	Harmonic O/V Trp	0.00	10.00	0.30	pu	N	Advanced
676	Harmonic O/V Dly	0.00	10.00	1.00	sec	N	Advanced
677	Bus Tran Min Trp	0.00	10.00	0.30	pu	N	Service
678	Bus Tran Idc Fac	0.00	10.00	0.50	pu	N	Service
679	Min Freewheel T	0.000	1.000	0.016	sec	N	Service
680	R Neutral	0.0	6553.5	0.0	ohms	N	Service
681	R Neutral Rating	0	65535	1500	W	N	Service
682	R Neutral OL	0.00	1.00	-		Y	Service
683	Harmonic Voltage	0.000	32.767	-	pu	Y	Service

	Name	Min.	Max.	Default	Units	Read-Only	Access
684	Bus Tran Trip	0.000	32.767	-	pu	Y	Service
686	XIO Logix IO	-	-	unassigned		N	Basic
687	Logix Inputs	-	-	-		Y	Service
688	Logix Outputs	-	-	-		Y	Service
690	Vsd	-2.000	2.000	-		Y	Service
691	Vsq	-2.000	2.000	-		Y	Service
692	Mtr Power Factor	0.00	1.00	-		Y	Service
693	Lm Regen	0.50	2.00	1.00		N	Service
694	Lm Noload FlxMin	0.50	2.00	1.00		N	Service
695	Lm Noload FlxMax	0.50	2.00	1.00		N	Service
696	Vline Bridge	0.000	2.000	-	pu	Y	Service
697	I Common Mode	0.00	655.35	-	A	Y	Service
698	Line Loss Trip	0.0	40.0	8.0	Hz	N	Service
699	Drive Not Ready2	-	-	-		Y	Monitor
700	Warning Output	0	1	-		Y	Service
701	Lm Predicted	0.00	15.00	-	pu	Y	Service
702	Extended Trend	-	-	Enabled		N	Service
703	Liq Cool Mask	-	-	1111111111111111		N	Basic
704	Fwd Phase Rot'n	-	-	UVW		N	Service
705	Output Transfrmr	-	-	No		N	Service
706	Warning Flag M4	-	-	-		Y	Service
707	Warning Mask M4	-	-	1111111111111111		N	Basic
708	Port Mask Act	-	-	-		Y	Advanced
709	Port Logic Mask	-	-	0000000001111111		N	Advanced
710	Logic Mask Act	-	-	-		Y	Advanced
711	Write Mask Cfg	-	-	0000000001111111		N	Advanced
712	Write Mask Act	-	-	-		Y	Advanced
713	Flying Start	-	-	UniDirection		N	Service
714	Logix Register A	0	65535	0		N	Service
715	Logix Register B	0	65535	0		N	Service
716	Drive ID	0	7	0		N	Advanced
717	Powerup Config	-	-	Single Drive		N	Advanced
718	Master Mask	-	-	11111111		N	Advanced
719	Acting Master ID	0	8	0		N	Advanced
720	PD Fault Word	-	-	-		Y	Advanced
721	PD Warning Word	-	-	-		Y	Advanced
722	PD Flags	-	-	0000000000000000		N	Service
723	PD Status	-	-	-		Y	Service
724	Drive0 Status	-	-	-		Y	Advanced
725	Drive1 Status	-	-	-		Y	Advanced
726	Drive2 Status	-	-	-		Y	Advanced
727	Drive3 Status	-	-	-		Y	Advanced
728	Drive4 Status	-	-	-		Y	Advanced
729	Drive5 Status	-	-	-		Y	Advanced
730	Drive6 Status	-	-	-		Y	Advanced
731	Drive7 Status	-	-	-		Y	Advanced
732	Master Flux Ref	0	65535	-		Y	Service
733	Master Torq Ref	0	65535	-		Y	Service
734	Master Isd Cmd	0	65535	-		Y	Service
735	Master Command	-	-	-		Y	Service
736	Sp Slave ID	0	8	-		Y	Service
737	Master Capacity	0	65535	-		Y	Service
738	Sp Capacity	0	65535	-		Y	Service
739	Sp Command	-	-	-		Y	Service
740	PD Flux Ref	0	65535	-		Y	Service
741	PD Torq Ref	0	65535	-		Y	Service
742	PD Isd Cmd	0	65535	-		Y	Service

	Name	Min.	Max.	Default	Units	Read-Only	Access
743	PD Command	-	-	-		Y	Service
745	Drives in System	1	4	1		N	Advanced
746	PD Capacity	0	32767	-		Y	Service
747	Pwr Lmt Motoring	0.00	1.50	1.50		N	Advanced
748	Pwr Lmt Braking	0.00	1.50	1.50		N	Advanced
749	Speed Cmd Loss	-	-	Fault		N	Basic
750	Cable Resistance	0.000	65.535	0.000	ohms	N	Service
751	IsoTx Redunt Fan	-	-	No		N	Service
753	Input Power	-15000	15000	-	kW	Y	Service
756	Idc 3 Pulse	0.000	10.000	-	pu	Y	Service
757	Idc 5 Pulse	0.000	10.000	-	pu	Y	Service
758	Warning Flag PD	-	-	-		Y	Service
759	Warning Mask PD	-	-	1111111111111111		N	Service
760	Surface Voltage	0	8000	-	V	Y	Basic
761	V Motor Fil Cap	0.000	2.000	-	pu	Y	Service
762	Active Discharge	-	-	Disable		N	Service
763	Cap Charge Time	1	10	1	sec	N	Service
764	Cur Sens FltCode	-	-	-		Y	Service
765	Reduced Capacity	-	-	Enable		N	Advanced
766	SCBL Outputs Cmd	-	-	-		Y	Basic
767	Bus Tran Level	0.000	32.767	-	pu	Y	Service
768	I CM Unfil	0.00	655.35	-	A	Y	Service
769	Rect Dvc Voltage	0	10000	6500	V	N	Service
770	Inv Dvc Voltage	0	10000	6500	V	N	Service
771	Mtr O/L Duty Cyc	0.0	900.0	600.0	Sec	N	Advanced
772	Drv O/L Duty Cyc	0.0	900.0	600.0	Sec	N	Advanced
773	Idc Ref Limit	0.000	2.000	-	pu	Y	Service
774	R Neutral OL Trp	0.00	655.35	5.00		N	Service
775	R Neutral OL Dly	0.00	655.35	2.50	Sec	N	Service
776	R Neutral OC Trp	0.00	655.35	10.00		N	Service
777	R Neutral OC Dly	0.000	65.535	0.010	Sec	N	Service
778	Peak Tran Volt	0.000	2.000	-	pu	Y	Service
779	I CM Peak	0.00	655.35	-	A	Y	Service
780	Fault Lock Clear	0	65535	0		N	Service
781	SpecialFeatures1	-	-	0000000000000000		N	Advanced
782	LineCurUnbal Lvl	0.00	1.00	0.03	pu	N	Service
783	GndCurLvlCapProt	0.0	100.0	10.0	A	N	Service
784	Cap Trip Dly	200	5000	200	msec	N	Service
785	Neg Seq Trip Lvl	0.0	200.0	2.0	A	N	Service
786	Neg Seq Trip Dly	25	5000	200	msec	N	Service
787	Unbalance Ratio	0.0	50.0	1.3		N	Service
788	LineCapStepVolt	0.00	1.50	0.30		N	Service
789	NeutVolt TripLvl	0.00	1.50	0.10	pu	N	Service
790	Trans IdcPeak	0.50	4.00	1.40	pu	N	Service
791	LineCur Neg Seq	-200.0	200.0	-	A	Y	Service
792	LineVolt Neg Seq	0.000	2.000	-	pu	Y	Service
793	Line Cur Unbal	0.00	1.00	-		Y	Service
794	NeutralFund Volt	0.00	1.00	-	pu	Y	Service
795	Smallest CapkVAR	0	1000	300	kvar	N	Service
796	RecHeatsink Type	-	-	MM Aluminum		N	Service
797	DC Link Type	-	-	Normal Duty		N	Service

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