

PowerFlex[®] 700S AC Drive Conversion Guide

Phase I to Phase II Control



Overview

This guide is a supplement to be used as an aid in converting a PowerFlex 700S Phase I control drive to a Phase II control drive. The conversion guide is designed to supplement the User Manual, Reference Manual, and Quick Start of the PowerFlex 700S. This conversion guide provides information to make transition from Phase I control to Phase II control easier. The information contained herein is provided for general applications and not all encompassing. **This guide is intended for qualified personnel.** See the User Manual and Reference Manual for specific application / installation requirements.

Control I/O Comparison - General (Base Drive Configuration)

	Phase I Control	Phase II Control
Digital Inputs	(4) 24VDC inputs (3) programmable (1) Enable input	(6) - (3) 24VDC and (3) 24VDC/120VAC All programmable with (1) configurable for Hardware Enable
Digital Outputs	(2) Open Collector, Max Load 25mA (1) Relay, 24VDC	(2) Open Collector, Max Load 750mA (1) Relay, 24VDC/120VAC
Analog Inputs	(2) +/-10VDC / +/-1VDC differential inputs, 13bit + sign	(2) +/-10VDC / 0-20mA differential inputs, 13bit + sign (1) 0-10VDC differential input, 10bit
Analog Outputs	(2) +/-10VDC differential outputs, 11bit + sign	(2) +/-10VDC / 0-20mA differential outputs, 11bit + sign
Encoder Inputs	(2) 5V / 12V Encoder Inputs quadrature / differential	(1) 5V / 12V Encoder Input quadrature / differential
DriveLogix - I/O Option	Flex I/O - up to 1 rail, (8) modules	Compact I/O - up to 2 racks, (16) modules

New Features in Phase II Control

PowerFlex 700S

- Reduced physical size
- Improved sensorless motor control
- Reduced parameter count by 20%
- Simplified configuration of "Normal Stop"
- Enhanced speed reference selection
- Added 7 preset speed selections
- Enhanced position control features
 - Independent Position Feedback selection
 - Improved support of absolute devices
 - Added load side fdbk for Point to Point
 - Added ramp to stop for Point to Point
- Expanded user functions
 - 16 point selector switch
 - 2 Scaling blocks ▪ 2 Comparators
 - Configurable logic function block
 - Convert Real to Dint and Dint to Real
 - MOP - Increment / Decrement function

PowerFlex 700S with DriveLogix™

- Reduced physical size
- DriveLogix does not require Expanded cassette
- New processor based on CompactLogix™
- Expanded application memory to 1.5 meg
- Simplified DriveLogix peer to peer connection
- Expanded the Drive to/from DriveLogix communication words from 16 to 21
- Added RUN / REM / PROG selection switch
- Added support for CompactFlash™ mem card
- Added support for Compact I/O

Ratings and Specifications

The power ratings, specifications, and listings are the same in the Phase II Control option for the PowerFlex 700S as they are in the Phase I Control option.

Communications

The Phase II Control option provides the same network connectivity as is available in Phase I Control. Additionally there is a new option for Phase II Control for EtherNet/IP™ with an embedded card that plugs directly into the main control board.

Catalog Number Cross Reference

The Phase II control uses the same catalog code as Phase I control. Phase II control is selected as an option. The catalog number through position 14 is unchanged for Phase II control. Positions 15, 16, & 17 have changes to support selection of Phase I or Phase II control and control related options as outlined below.

Position 15 (Control Options - Phase II control)

Control Option	Cassette Option	Logix Expansion	SynchLink Option	Catalog Code	Notes
Phase I	N/A	N/A	Standard	N	Phase I Control Selection
Phase II	Expanded	No	No	A	
Phase II	Expanded	No	Yes	B	
Phase II	Expanded	Yes	No	C	Requires DriveLogix5730
Phase II	Expanded	Yes	Yes	D	Requires DriveLogix5730
Phase II	Slim	N/A	No	G	
Phase II	Slim	N/A	Yes	H	

In position 15, first select Phase I control or Phase II control. For Phase II control selection, make the following additional control selections per application requirements and the desired options:

- 1) Choose Expanded Cassette or Slim Cassette. The Expanded cassette is typical and allows for the most flexibility.
- 2) Choose Yes or No for the Logix Expansion board. The Logix™ Expansion board expands the connection capabilities of the DriveLogix5730 controller. The Logix Expansion board cannot be selected with the Slim cassette.
- 3) Choose Yes or No for the SynchLink™ option board. SynchLink is not standard on Phase II control. If SynchLink is required, select this option.

Catalog Number Cross Reference - *continued*

Position 16 (Feedback Options)

Feedback Type	Catalog Code	Notes Phase I control	Notes Phase II control
None	N		
Resolver	A		Requires Expanded Cassette
Stegmann Encoder	B		Requires Expanded Cassette
Multi-Device Interface	C		Requires Expanded Cassette
2nd Encoder	E	N/A	Requires Expanded Cassette

In position 16, choose the feedback option desired. The 2nd Encoder option may only be used with Phase II control.

- 1) Phase I control feedback option boards are not support in Phase II control. A new feedback option card will be required when upgrading a Phase I control to a Phase II control drive.
- 2) All feedback option cards require the Expanded cassette when used with Phase II control.
- 3) If the 2nd Encoder and an additional feedback option card is needed, select the 2nd Encoder for the factory installed option and choose the additional desired feedback option as a user installed kit.

Position 17 (Additional Configurations)

Option Selection	Embedded Comm	Catalog Code
Phase I control	N/A	N
Phase I control with DriveLogix5720	N/A	A
Phase I control with DriveLogix5720 + Mem Exp	N/A	B
Phase II control	No	E
Phase II control	EtherNet/IP	F
Phase II control with DriveLogix5730	No	K
Phase II control with DriveLogix5730	EtherNet/IP	L

In Position 17, choose the option for DriveLogix and if applicable the embedded EtherNet/IP option. This position specifies control without DriveLogix or control with DriveLogix. If DriveLogix is needed, select a catalog code designated to include DriveLogix. In Phase II control, DriveLogix is not an option board (as in Phase I control), the Main Control Board (MCB) is populated with the Logix processor when DriveLogix is selected.

- 1) Catalog code (N, A, B) are only available when position 15 = (N)
- 2) Catalog code (E, F, K, L) are only available when position 15 = (A, B, C, D, G, H)
- 3) Catalog code (F, L) add the Embedded EtherNet/IP for Phase II control.

Control I/O - Connections

Digital Inputs, Phase I ⇔ Phase II Control

Terminal	Phase I - Signal	Terminal	Phase II - Signal
TB1-T11	24Vdc Common (-)	TB2-1	24Vdc Common (-)
TB1-T10	24Vdc Source (+)	TB2-2	24Vdc Source (+)
TB1-T9	Logic Common (for Enable & DI1)	TB2-13	Digital Input 4-6 Common
TB1-T8	Digital Input 1	TB2-15	Digital Input 5 *
TB1-T7	Enable Input	TB2-16	HW Enable (Digital Input 6)
TB2-T6	Digital Input 2	TB2-10	Digital Input 1
TB2-T5	Digital Input 2 Return	TB2-9	Digital Input 1-3 Common
TB2-T4	Digital Input 3	TB2-11	Digital Input 2
TB2-T3	Digital Input 3 Return	TB2-9	Digital Input 1-3 Common
	<i>not available in Phase I</i>	TB2-12	Digital Input 3
	<i>not available in Phase I</i>	TB2-14	Digital Input 4

Note:

* Digital Input 1 was typically used for RUN command. In Phase II, we recommend using Digital Input 5 for RUN.

Recommendations:

For 2 wire control, use Digital Input 5 for RUN command. This allows for 24Vdc or 120Vac control connections.

For 3 wire control, use Digital Input 5 for START command and Digital Input 4 for STOP. This allows for 24Vdc or 120Vac control connections.

This configuration will allow the High Speed Digital Inputs 1 & 2 to be used for other time critical functions, such as Registration.

Analog Inputs, Phase I ⇔ Phase II Control

Terminal	Phase I - Signal	Terminal	Phase II - Signal
TB1-B11	Analog Input 1 (-)	TB1-1	Analog Input 1 Common (-)
TB1-B10	Analog Input 1 (+)	TB1-2	Analog Input 1 (+/-)
TB1-B9	Analog Input Shield	TB1-3	Shield
TB1-B8	Analog Input 2 (-)	TB1-4	Analog Input 2 Common (-)
TB1-B7	Analog Input 2 (+)	TB1-5	Analog Input 2 (+/-)
TB1-T1*	Thermister Shield	TB1-3	Shield
TB1-T2*	Thermister Input Return	TB1-6	Analog Input 3 Common (-)
TB1-T3*	Thermister Input	TB1-7	Analog Input 3 (+)
N/A	<i>not available</i>	TB1-13	+10v Reference (for Potentiometer)
N/A	<i>not available</i>	TB1-14	Reference Common
N/A	<i>not available</i>	TB1-15	-10v Reference (for Potentiometer)

Note:

* The Thermister Input on Phase I control is only supported when motor control mode is FVC2

Exception, the +/-1Vdc input selections of Phase I control are not supported on Phase II control.

Phase II control supports selection of Analog Inputs for +/-10Vdc or 0-20mA.

Potentiometer reference was not available in Phase I control for the PowerFlex 700S. If an external supply was used, it may also be used with Phase II control or you may change the wiring to employ the available 10v reference.

Control I/O - Connections *continued*

Digital Outputs, Phase I ⇔ Phase II Control

Terminal	Phase I - Signal	Terminal	Phase II - Signal
TB1-T6	Digital Output 1	TB2-3	Digital Output 1
TB1-T5	Digital Output 2	TB2-5	Digital Output 2
TB1-T4	Digital Output Return	TB2-4	Digital Output 1/2 Common
TB2-B5	Relay Output	TB2-8	Relay Output 3 (NO)
TB2-B4	Relay Output Return	TB2-7	Relay Output 3 Common
N/A	<i>not available</i>	TB2-6	Relay Output 3 (NC)

Note:

Phase I control Digital Outputs have a maximum load of 25mA, Phase II control Digital Outputs have a maximum load of 150mA if internally sourced or 750mA if sourced with an external supply.

Phase I control included a Form A relay @ 24Vdc only, Phase II control includes a Form C relay @ 24Vdc or 120Vac

Analog Outputs, Phase I ⇔ Phase II Control

Terminal	Phase I - Signal	Terminal	Phase II - Signal
TB1-B6	Analog Output 1 (+)	TB1-10	Analog Output 1 (+)
TB1-B5	Analog Output 1 (-) Return	TB1-9	Analog Output 1 (-)
TB1-B4	Analog Output Shield	TB1-8	Shield
TB1-B3	Analog Output 2 (+)	TB1-12	Analog Output 2 (+)
TB1-B2	Analog Output 2 (-) Return	TB1-11	Analog Output 2 (-)
TB1-B1	Analog Output Shield	TB1-8	Shield

Note:

Phase I control Analog Outputs could operate only as +/-10Vdc, Phase II control Analog Outputs can be configured for +/-10Vdc or 0-20mA.

Control I/O - Connections *continued*

Incremental Encoder 0 feedback, Phase I ⇔ Phase II Control

Terminal	Phase I - Signal	Terminal	Phase II - Signal
TB2-T13	Encoder Signal A	TB1-16	Encoder Signal A
TB2-T12	Encoder Signal Not A	TB1-17	Encoder Signal Not A
TB2-T11	Encoder Signal B	TB1-18	Encoder Signal B
TB2-T10	Encoder Signal Not B	TB1-19	Encoder Signal Not B
TB2-T9	Encoder Signal Z	TB1-20	Encoder Signal Z
TB2-T8	Encoder Signal Not Z	TB1-21	Encoder Signal Not Z
TB2-T7	Shield	TB1-24	Shield
TB2-T2	Power Supply 5/12Vdc (+)	TB1-22	Power Supply 5/12Vdc (+)
TB2-T1	Power Supply 5/12Vdc (-) Return	TB1-23	Power Supply 5/12Vdc (-) Return

Note:

Phase I control - jumper J6 selects the Encoder power supply voltage to 5Vdc or 12Vdc. If this jumper does not exist, the power supply voltage is 12Vdc.

Phase II control - switch S2 (1-4) selects the Encoder power supply voltage and the Encoder signal voltage. Typically all 4 switches should be set the same. Defaulted for 12Vdc (OPEN), for 5Vdc set the switches to (CLOSED).

See the Quick Start manual (20D-QS001) for more information.

Incremental Encoder 1 feedback, Phase I ⇔ Phase II Control

** Requires the 2nd Encoder option (20D-P2-ENC0) be installed in Phase II control*

Terminal	Phase I - Signal	Terminal	Phase II - Signal (2nd Encoder)
TB2-B13	Encoder Signal A	5	Encoder Signal A
TB2-B12	Encoder Signal Not A	6	Encoder Signal Not A
TB2-B11	Encoder Signal B	7	Encoder Signal B
TB2-B10	Encoder Signal Not B	8	Encoder Signal Not B
TB2-B9	Encoder Signal Z	9	Encoder Signal Z
TB2-B8	Encoder Signal Not Z	10	Encoder Signal Not Z
TB2-B7	Shield	13	Shield
TB2-B2	Power Supply 5/12Vdc (+)	11	Power Supply 5/12Vdc (+)
TB2-B1	Power Supply 5/12Vdc (-) Return	12	Power Supply 5/12Vdc (-) Return

Note:

Phase I control - jumper J6 selects the Encoder power supply voltage to 5Vdc or 12Vdc. If this jumper does not exist, the power supply voltage is 12Vdc.

Phase II control - Encoder 1 support requires the 2nd Encoder option for support. Switch S1 (1-4) is used to select the voltage level of the 2nd Encoder power supply and input signals. Defaulted for 12Vdc (OPEN), for 5Vdc set the switches to (CLOSED).

Option Cards

Feedback Option boards

The feedback option boards from Phase I control are not compatible with Phase II control. A new feedback option board will be needed for support with Phase II control.

Feedback Option	Phase I control	Phase II control
Resolver	20D-RES-A0	20D-RES-A1
Stegmann High-Res	20D-STEG-B0	20D-STEG-B1
MDI (Multi Device Interface)	20D-MDI-C0	20D-MDI-C1
2nd Encoder	N/A (Standard Input)	20D-P2-ENC0

Note:

The connections for the feedback option cards are the same for Phase I control and Phase II control. Reconnect the wires for the new feedback option board exactly as connected in the Phase I control feedback option board.

Communication Option boards

All DPI communication option boards supported in Phase I control are supported in Phase II control. No changes are required. If using DriveLogix in Phase I control with NetLinX communication daughtercards, for Phase II control the Logix Expansion board (20D-DL2-LEB0) and the Expanded cassette are required for support of these communication options. The NetLinX communications daughtercards are the same for Phase I control and Phase II control.

SynchLink Options

SynchLink is included as a standard in Phase I control. If SynchLink is being used, the optional SynchLink option board (20D-P2-SLB0) must be added to Phase II control.

Parameter Conversion (Cross Reference)

Some parameter numbers in Phase II control have changed due to parameter table compression and deletion of duplicate parameters in the communication dialogs. The changes are listed below in a cross reference table. If a parameter is not listed in the cross reference table the parameter number has not changed from Phase I control to Phase II control.

Important:

Parameter 147 [FW Functions En] is used to enable control functions in Phase II control. This parameter employs a 32 bit word with each bit designated to a specific function. If the bit is high the function is active. The Phase II control is defaulted with Position control OFF (disabled). To use position control, activate p147bit16 (set high). If p147bit16 is off, position control will not function.

NOTE, parameters may be displayed in DriveExecutive™ even when a function is not active.

Phase I control		Phase II control	
Par No.	Parameter Name	Par No.	Parameter Name
8	Motor Inertia	Deleted	
14	Speed Ref 4	14	Preset Speed 1
15	Speed Ref 5	15	Preset Speed 2
16	Speed Ref Sel	27	Speed Ref A Sel
17	Jog Speed 1	29	Jog Speed 1
18	Jog Speed 2	39	Jog Speed 2
19	Atune Spd Ref	74	Atune Spd Ref
20	Speed Ref DPI	Deleted	
30	Rev Speed Limit	30	Min Spd Ref Lim
31	Fwd Speed Limit	31	Max Spd Ref Lim
42	Ramped Spd Ref	Deleted	<i>(see p43 Ramped Spd Ref)</i>
43	S Curve Spd Ref	43	Ramped Spd Ref
44	Filtered Spd Ref	Deleted	
50	Spd Ref TP Sel	77	Spd Ref TP Sel
51	Spd Ref TP RPM	78	Spd Ref TP RPM
52	Spd Ref TP Data	79	Spd Ref TP Data
70	MtrSpd Sim Posit	229	MtrPosit Simulat
74	Motor Spd Est	226	Motor Speed Est
75	MtrSpd Est Posit	227	Motor Posit Est
76	MtrSpd Simulated	228	MtrSpd Simulated
77	Spd Fdbk TP Sel	245	Spd Fdbk TP Sel
78	Spd Fdbk TP RPM	246	Spd Fdbk TP RPM
79	Spd Fdbk TP Data	247	Spd Fdbk TP Data
80	Speed Reg Ctrl	151/153	<i>(Bits split to either parameter)</i>
98	Spd Gain TP Sel	108	Spd Gain TP Sel
99	Spd Gain TP Data	109	Spd Gain TP Data
107	SrLss Kp Max	Deleted	
117	Notch Filt Mode	Deleted	<i>(Notch Filter change, improved filtering)</i>
140	FricComp Spd Ref	64	FricComp Spd Ref
141	FricComp Setup	65	FricComp Setup
142	FricComp Stick	66	FricComp Stick
143	FricComp Slip	67	FricComp Slip
144	FricComp Rated	68	FricComp Rated
145	FricComp TorqAdd	69	FricComp Trq Add
183	PI Command	153	Control Options <i>(bits combined)</i>
193	PI TP Sel	178	PI TP Sel
194	PI TP Data	179	PI TP Data

Parameter Conversion - *continued*

Phase I control		Phase II control	
Par No.	Parameter Name	Par No.	Parameter Name
200	Time Axis Rate	202	Time Axis Rate
201	Time Axis Output	203	Time Axis Output
220	Spd Observer BW	Deleted	<i>(Call for support if needed)</i>
226	Virtual Edge/Rev	225	Virtual Edge/Rev
227	Spd Obs Trq Gain	Deleted	
243	Encdr1 Config	233	Encdr 0/1 Config <i>(bits combined)</i>
244	Encdr1 Error	234	Encdr 0/1 Error <i>(bits combined)</i>
245	Port1 Regis Ltch	239	Encdr1 RegisLtch
246	Port1 Regis Cnfg	236	Enc0/1 RegisCnfg <i>(bits combined)</i>
247	Port1 Regis Ctrl	237	Enc0/1 RegisCtrl <i>(bits combined)</i>
248	Port1 Regis Stat	238	Enc0/1 RegisStat <i>(bits combined)</i>
253	Opt 0 Regis Ltch	257	Opt 0 Regis Ltch
266	Reslvr0 Config	268	Resolver0 Cnfg
267	Reslvr0 Status	269	Resolver0 Status
268	Reslvr0 TP Sel	270	Reslvr0 TP Sel
269	Reslvr0 TP Data	271	Reslvr0 TP Data
270	Reslvr0 SpdRatio	272	Reslvr0 SpdRatio
271	Reslvr0 Carrier	273	Reslvr0 Carrier
272	Reslvr0 In Volts	274	Reslvr0 In Volts
273	Rslvr0 XfrmRatio	275	Rslvr0 XfrmRatio
274	Reslvr0 CableBal	276	Reslvr0 CableBal
275	Reslvr0 Type Sel	277	Reslvr0 Type Sel
276	FB Opt1 Posit	252	FB Opt1 Posit
277	FB Opt1 Spd Fdbk	253	FB Opt1 Spd Fdbk
279	Opt 1 Regis Ltch	258	Opt 1 Regis Ltch
280	Opt 1 Regis Cnfg	254	Opt0/1 RegisCnfg <i>(bits combined)</i>
281	Opt 1 Regis Ctrl	255	Opt0/1 RegisCtrl <i>(bits combined)</i>
282	Opt 1 Regis Stat	256	Opt0/1 RegisStat <i>(bits combined)</i>
358	Iq Ref Limited	Deleted	<i>(see p355 Iq Ref Limited)</i>
363	Curr Ref TP Sel	357	Curr Ref TP Sel
364	Curr Ref TP Data	358	Curr Ref TP Data
365	Encdr0 Loss Cnfg	Deleted	<i>(New Feedback loss config see</i>
366	Encdr1 Loss Cnfg	Deleted	<i>p365 Fdbk LsCnfg Pri</i>
367	FB Opt0 LossCnfg	Deleted	<i>p366 Fdbk LsCnfg Alt</i>
368	FB Opt1 LossCnfg	Deleted	<i>p367 Fdbk LsCnfgPosit)</i>
396	User Data Int 01	1002	UserData DInt 01
397	User Data Int 02	1003	UserData DInt 02
398	User Data Int 03	1004	UserData DInt 03
399	User Data Int 04	1005	UserData DInt 04
451	SrLss Preset Spd	Deleted	
473	Freq Reg FF Gain	Deleted	
474	Freq Reg We BW	Deleted	
475	Freq Reg Wr BW	Deleted	
476	Slip Gain Comp	Deleted	
484	MC Config	Deleted	
519	Test Tune Config	Deleted	
526	MC Build Number	456	MC Build Number
527	MC Firmware Rev	457	MC Firmware Rev
528	MC Self Diag Err	458	MC Self Diag Err

Parameter Conversion - *continued*

Phase I control		Phase II control	
Par No.	Parameter Name	Par No.	Parameter Name
533	Slip Ratio	525	Slip Ratio
534	Stator Frequency	526	Stator Frequency
535	Iqs Command	495	Iqs Command
537	Ids Command	496	Ids Command
539	Iqs Feedback	499	Iqs Feedback
540	Ids Feedback	489	Ids Feedback
541	Vqs Command	497	Vqs Command
542	Vds Command	498	Vds Command
544	MC TP Select	466	MC TP Select
545	MC TP Value	467	MC TP Value
546	MC TP Bit	468	MC TP Bit
548	Est Speed Fdbk	Deleted	<i>(see p226 Motor Speed Est)</i>
550	MC Diag Status	518	MC Diag Status
551	MC Diag Done	519	MC Diag Done
552	MC Diag Error 1	463	MC Diag Error 1
553	MC Diag Error 2	464	MC Diag Error 2
554	MC Diag Error 3	465	MC Diag Error 3
600-664	<i>DriveLogix Parameters</i>	600-646	<i>DriveLogix Parameters - compressed database</i>
665	Saved Events	436	Saved Events
666	Startup State	452	Startup State
670	Pwr Strct Mode	412	Pwr Strct Mode
672	HiHp GndFlt Cur	363	HiHp GndFlt Cur
673	HiHp GndFlt Dly	364	HiHp GndFlt Dly
691	DPI Ref Select	Deleted	
692	DPI Baud Rate	Deleted	
693	Logic Mask	670	Logic Mask
694	Start Mask	671	Start Mask
695	Jog Mask	672	Jog Mask
696	Direction Mask	673	Direction Mask
697	Fault Clr Mask	674	Fault Clr Mask
700	Stop Owner	677	Stop Owner
701	Start Owner	678	Start Owner
702	Jog Owner	679	Jog Owner
703	Direction Owner	680	Direction Owner
704	Fault Clr Owner	681	Fault Clr Owner
705	X NotchWidth (Q)	Deleted	<i>(Notch Filter change, improved filtering)</i>
706	X Notch FiltFreq	779	X Notch FiltFreq
777	Posit TP Select	737	Posit TP Select
778	PositTP Data Int	738	PositTP DataDInt
779	PositTP DataReal	739	PositTP DataReal
796	Posit Index Ctrl	740	Position Control <i>(bits combined)</i>
812	Anlg Out1 Offset	834	Anlg Out1 Offset
813	Anlg Out2 Offset	841	Anlg Out2 Offset
814	AnlgOut1 Integer	832	Anlg Out1 DInt
815	Anlg Out1 Real	833	Anlg Out1 Real
816	Anlg Out1 Volts	837	Anlg Out1 Value
817	Anlg Out1 Scale	835	Anlg Out1 Scale
818	Anlg Out1 Zero	836	Anlg Out1 Zero

Parameter Conversion - *continued*

Phase I control		Phase II control		
Par No.	Parameter Name	Par No.	Parameter Name	
819	AnlgOut2 Integer	839	Anlg Out2 DInt	
820	Anlg Out2 Real	840	Anlg Out2 Real	
821	Anlg Out2 Volts	844	Anlg Out2 Value	
822	Anlg Out2 Scale	842	Anlg Out2 Scale	
823	Anlg Out2 Zero	843	Anlg Out2 Zero	
825	En In Debounce	Delete	(see p823 DigIn Debounce)	
826	DigIn1 Data	860	BitSwap 1A Data	
827	DigIn1 Bit	861	BitSwap 1A Bit	
828	DigIn1 User Data	864	BitSwap 1 Result	
829	DigIn1 Debounce	Delete	(see p823 DigIn Debounce)	
830	DigIn2 Data	865	BitSwap 2A Data	
831	DigIn2 Bit	866	BitSwap 2A Bit	
832	DigIn2 User Data	869	BitSwap 2 Result	
833	DigIn2 Debounce	Delete	(see p823 DigIn Debounce)	
834	DigIn3 Data	870	BitSwap 3A Data	
835	DigIn3 Bit	871	BitSwap 3A Bit	
836	DigIn3 User Data	874	BitSwap 3 Result	
837	DigIn3 Debounce	Delete	(see p823 DigIn Debounce)	
838	DigIn1 Sel	825	Dig In1 Sel	<i>Note, Different selection values</i>
839	DigIn2 Sel	826	Dig In2 Sel	
840	DigIn3 Sel	827	Dig In3 Sel	
841	Relay Out Data	856	Rly Out3 Data	
842	Relay Out Bit	857	Rly Out3 Bit	
843	DigOut 1 Data	846	Dig Out1 Data	
844	DigOut 1 Bit	847	Dig Out1 Bit	
845	DigOut 2 Data	851	Dig Out2 Data	
846	DigOut 2 Bit	852	Dig Out2 Bit	
850	ParamAccessLevel	196	ParamAccessLevel	
901	MotnUpdatePeriod	684	MotnUpdatePeriod	
902	Motn CoarseMulti	685	Motn CoarseMulti	
903	Motn Config	686	Motn Config	
904	Motn Axis Status	687	Motn Axis Status	
905	Motn AxisControl	688	Motn AxisControl	
906	Motn Axis Resp	689	Motn Axis Resp	
907	Motn Cnct Status	690	Motn Cnct Status	
908	Motn EventStatus	691	Motn EventStatus	
909	Motn Event Ctrl	692	Motn Event Ctrl	
911	Motn Mx Pos Trvl	694	Motn Mx Pos Trvl	
912	Motn Mx Neg Trvl	695	Motn Mx Neg Trvl	
913	Motn PositErrTol	696	Motn PositErrTol	
914	MotnPositLockTol	697	MotnPositLockTol	
917	Motn Posit Cmmnd	698	Motn Posit Cmmnd	
918	Motn Speed Cmmnd	699	Motn Speed Cmmnd	
919	Motn Posit Sync	700	Motn Posit Sync	
920	FdbkAxis FdbkSel	701	FdbkAxis FdbkSel	
921	FdbkAxis FdbkVal	702	FdbkAxis FdbkVal	
922	Motn TP Select	703	Motn TP Select	
923	Motn TP Value	704	Motn TP Value	

Parameter Conversion - *continued*

Phase I control		Phase II control	
Par No.	Parameter Name	Par No.	Parameter Name
924	Motn RotaryCmmd	705	Motn RotaryCmmd
925	MotnUnwdTurnCmmd	706	MotnUnwdTurnCmmd
926	SrvoAxis RotFdbk	707	SrvoAxis RotFdbk
927	SrvoAxisUnwdFdbk	708	SrvoAxisUnwdFdbk
928	FdbkAxis RotFdbk	709	FdbkAxis RotFdbk
929	FdbkAxisUnwdFdbk	710	FdbkAxisUnwdFdbk
930	MotnCnfgErrParam	711	MotnCnfgErrParam
940	+Sft OvrTrvlCnfg	395	+Sft OvrTrvlCnfg
941	-Sft OvrTrvlCnfg	396	-Sft OvrTrvlCnfg
942	+Hrd OvrTrvlCnfg	397	+Hrd OvrTrvlCnfg
943	-Hrd OvrTrvlCnfg	398	-Hrd OvrTrvlCnfg
944	Positin Err Cnfg	399	Position ErrCnfg
1000	SL Node Cnfg	904	SL Node Cnfg
1001	SynchLink Rev	900	SynchLink Rev
1002	SL System Rev	901	SL System Rev
1003	Interp SyncInput	693	Interp SyncInput
1010	SL Rx Comm Frmt	905	SL Rx CommFormat
1011	SL Rx DirectSel0	906	SL Rx DirectSel0
1012	SL Rx DirectSel1	907	SL Rx DirectSel1
1013	SL Rx DirectSel2	908	SL Rx DirectSel2
1014	SL Rx DirectSel3	909	SL Rx DirectSel3
1020	SL Tx Comm Frmt	910	SL Tx CommFormat
1021	SL Tx DirectSel0	911	SL Tx DirectSel0
1022	SL Tx DirectSel1	912	SL Tx DirectSel1
1023	SL Tx DirectSel2	913	SL Tx DirectSel2
1024	SL Tx DirectSel3	914	SL Tx DirectSel3
1030	SL Mult A In	924	SL Mult A In
1031	SL Mult B In	925	SL Mult B In
1032	SL Mult Base	923	SL Mult Base
1033	SL Mult Out	926	SL Mult Out
1034	SL Mult State	927	SL Mult State
1035	Real to Int In	921	SL Real2DInt In
1036	Real to Int Out	922	SL Real2DInt Out
1040	SL Rcv Events	915	SL Rcv Events
1041	SL Rx P0 Regis	917	SL Rx P0 Regis
1042	SL Rx P1 Regis	918	SL Rx P1 Regis
1047	SL Rx Opt0 Regis	919	SL Rx Opt0 Regis
1049	SL Clr Events	916	SL Clr Events
1054-1220	<i>SynchLink Data Parameters</i>	928-999	<i>SynchLink Data Parameters - compressed database</i>
1226	SL Comm TP Sel	892	SL Comm TP Sel
1227	SL Comm TP Data	893	SL Comm TP Data
1228	SL Error History	903	SL Error History
1229	SL Error Status	902	SL Error Status
1230	SL CRC Err Accum	894	SL CRC Err Accum
1231	SL CRC Error	895	SL CRC Error
1232	SL BOF Err Accum	896	SL BOF Err Accum
1233	SL BOF Error	897	SL BOF Error
1234	SL CRC Err Limit	898	SL CRC Err Limit
1235	SL BOF Err Limit	899	SL BOF Err Limit

Parameter Conversion - *continued*

Phase I control		Phase II control	
Par No.	Parameter Name	Par No.	Parameter Name
1250	Trend Control	556	Trend Control
1251	Trend Status	557	Trend Status
1252	Trend State	558	Trend State
1253	Trend Rate	559	Trend Rate
1254	Trend TrigA Int	560	Trend TrigA DInt
1255	Trend TrigA Real	561	Trend TrigA Real
1256	Trend TrigB Int	562	Trend TrigB DInt
1257	Trend TrigB Real	563	Trend TrigB Real
1258	Trend Trig Data	564	Trend Trig Data
1259	Trend Trig Bit	565	Trend Trig Bit
1260	Trend PreSamples	566	Trend PreSamples
1264	Trend In1 Int	570	Trend In1 DInt
1265	Trend In1 Real	571	Trend In1 Real
1266	Trend In2 Int	574	Trend In2 DInt
1267	Trend In2 Real	575	Trend In2 Real
1268	Trend In3 Int	578	Trend In3 DInt
1269	Trend In3 Real	579	Trend In3 Real
1270	Trend In4 Int	582	Trend In4 DInt
1271	Trend In4 Real	583	Trend In4 Real
1280	Trend Marker Int	567	Trend Mark DInt
1281	Trend Mark Real	568	Trend Mark Real
1283	TrendBuffPointer	569	TrendBuffPointer
1284	Trend Out1 Int	572	Trend Out1 DInt
1285	Trend Out1 Real	573	Trend Out1 Real
1286	Trend Out2 Int	576	Trend Out2 DInt
1287	Trend Out2 Real	577	Trend Out2 Real
1288	Trend Out3 Int	580	Trend Out3 DInt
1289	Trend Out3 Real	581	Trend Out3 Real
1290	Trend Out4 Int	584	Trend Out4 DInt
1291	Trend Out4 Real	585	Trend Out4 Real
1300	User Data Int 05	1006	UserData DInt 05
1301	User Data Int 06	1007	UserData DInt 06
1310	UserData Real 01	1012	UserData Real 01
1311	UserData Real 02	1013	UserData Real 02
1312	UserData Real 03	1014	UserData Real 03
1313	UserData Real 04	1015	UserData Real 04
1314	UserData Real 05	1016	UserData Real 05
1315	UserData Real 06	1017	UserData Real 06
1370	Switch Control	1022	Sel Switch Ctrl
1371	SW Int 1 NO	1027	Swch DInt 1 NO
1372	SW Int 1 NC	1026	Swch DInt 1 NC
1373	SW Int 1 Output	1028	Swch DInt 1 Out
1374	SW Real 1 NO	1024	Swch Real 1 NO
1375	SW Real 1 NC	1023	Swch Real 1 NC
1376	SW Real 1 Output	1025	Swch Real 1 Out

Notes

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