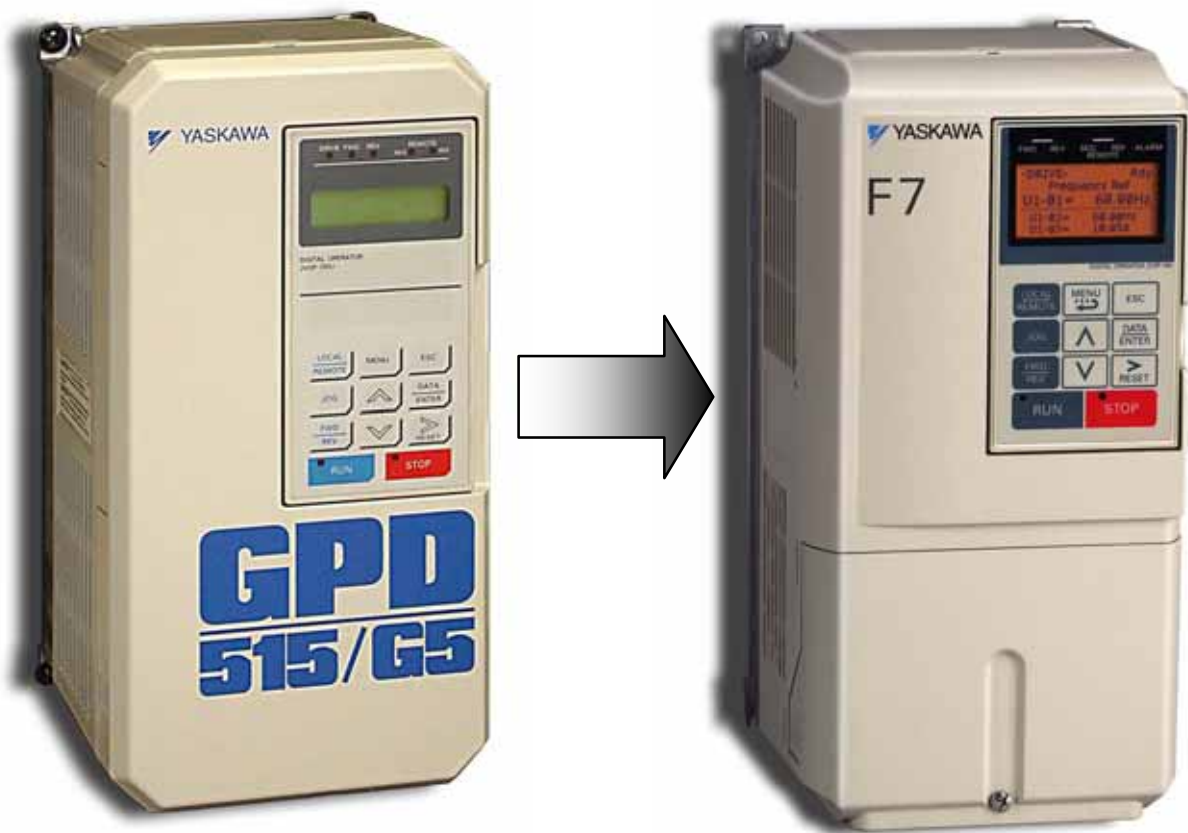


Product Transition Guide

GPD 515/G5 to F7



Product Transition Guide

GPD515/G5 to F7

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Product Transition Guide

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Product Transition Guide

GPD515/G5 to F7

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Feature Overview

This document details differences between the GPD515/G5 and F7 product to assist in product transition and new product introduction.



GPD515/G5 Drive

The GPD 515/G5 drive is a general-purpose drive, intended for a broad range of applications in Industrial Automation. Accordingly, it is available with many choices of I/O, communications, and software. It is available in constant torque ratings, 3/4 to 500 horsepower. The G5 HHP is available to 1500 HP.



F7 Drive

The F7 drive is positioned as the Industrial Workhorse. It is the best choice in a single drive format for every conventional industrial drive application in its horsepower range of 1/2 to 500 hp. It is dual rated to enable best choice for Normal (Variable Torque) machine loads and Heavy Duty (Constant torque) machine loads.

F7 Features & Functions

- Analog outputs with new 4-20ma selection and 10 bit resolution.
- Improved input voltage specification.
- Enhanced digital operator with copy function
- Simplified parameter menu navigation
- New LCD contrast adjustment
- New PID sleep function
- More preset speed selections
- More versatile PNP/NPN sinking /sourcing I/O
- More relay outputs
- More versatile analog outputs
- New pulse I/O
- New quick disconnect terminal I/O
- New cooling fan on/off control and elapsed time and cassette replacement design
- New 12-pulse diode bridge
- Built-in RS485 communication with self test mode
- New drive enable input selection
- New automatic derating based on ambient temperature setting
- New motor temperature analog input
- New motor overheat alarm outputs
- Addition under torque selections
- New kWh and mWh and heat-sink temp monitors
- New Bi-directional speed search
- Enhanced fault storage (Qty. 10 faults)
- Improved Energy Savings- manual/automatic modes
- High Slip Braking
- Improved Auto-Tuning Functions

F7 Performance

- Auto-tuning 3-Methods (R1/Static/Dynamic)
- Static no load auto-tuning offers same torque accuracy performance as dynamic auto-tuning at base speed & below
- Dual rating: Heavy Duty 150% 60 secs/ Normal Duty 110% 60 secs
- DC input compatible (all models) simplified connection to DC power, removal of internal DC bus choke not required.

Product Transition Guide

GPD515/G5 to F7

GPD515/G5 to F7 Feature Differences

Feature	Item	Yaskawa GPD515/G5	Yaskawa F7
HP Range	200V	230V 0.5 to 150HP ¹	240V 0.5 to 150HP (ND) ²
	400V	460V 0.5 to 400HP ¹	480V 0.5 to 500HP (ND)
	600V	2 to 200HP	N/A
Input Voltage	Rated Voltage	3-phase, 200-230Vac 3-phase, 380-460Vac	3-phase, 200-240Vac 3-phase, 380-480Vac
PWM Carrier Frequency	Range	See Appendix 1	See Appendix 1
Max. Output Frequency	Hz	400Hz (800Hz optional)	300Hz (HD) 400Hz (ND) 1000 Hz optional
Keypad Design	Display	2 Line x 16 Character LCD	5 Line x 16 Character LCD
	Copy Function	No	Yes
Digital Input Terminal	NPN/PNP	NPN	Switchable NPN/PNP
Digital Output Terminal	Open Collector	2	0
	Relay Output	1 x Form A, 1 x Form C	3 x Form A, 1 x Form C
Analog Output	Output Level	2 channels 0-10V or -10V to +10V (9 bit plus sign)	2 channels with independent level selections 0-10V (10 bit plus sign) or -10-+10V or (10 bit plus sign) or 4-20ma (10 bit plus sign)
Pulse Input	Qty.	0	1
	Input Freq.	Not Available	1-32kHz
Pulse Output	Qty.	0	1
	Output Freq.	Not Available	0-32kHz
Quick Disconnect Terminals	Type	No	Yes (Phoenix)
Auto Tuning	Rotating/Stationary	Rotating	Rotating/Stationary/ Primary Resistance
Preset Speeds	Qty.	8	17
Speed Search	Bi/Uni-Directional	Uni-Directional	Bi-Directional
	Method	Current	Current/ Speed
Auto Restart	Time Between Attempts	180.0 sec continuous (not selectable)	0.0 – 5.0 sec (selectable)
Energy Savings Mode	Man/Auto	Manual	Man/Auto
DC Injection Function	At Start/At Stop	At Start/At Stop	At Start/At Stop +HSB during stop
Braking Function	DB Transistor	Built-in to 10HP (230V) Built-in to 25HP (460V)	Built-in to 25HP
	Special	No	High Slip Braking
Cooling Fan On/Off Control	Power/Run	No	Run Based
Timer Function	On/Off Delay	On/Off Delay (0-25.5 sec)	On/Off Delay (0-3000 sec)
Fault Code Additions	-	n/a	10 additional
Torque Limit / Current Limit / Stall Prevention	-	Stall Prevention During Accel/Run/Decel (V/F) Torque Limit in 4 Quadrants (Vector)	Stall Prevention During Accel/Run/Decel (V/F) Torque Limit in 4 Quadrants (Vector) Software current limit (HD=150%/ND=120%)

¹ Larger G5 models available by HHP modular design.

² HD=Heavy Duty, ND=Normal Duty

Product Transition Guide GPD515/G5 to F7 Feature Differences

Feature	Item	Yaskawa GPD515/G5	Yaskawa F7
Harmonic Counter Measures	-	Filters/Reactors (Options)	12 Pulse: 30HP and Above Filters/Reactors (Options)
	Built-In DC Bus Reactor	230Vac: 18.5-75kW 460Vac: 18.5-160kW	240Vac: 22-110kW 480Vac: 22-300kW
Ambient Temperature	°C	-10°C ~ +40°C (IP21) -10°C ~ +45°C (IP00)	-10°C ~ +40°C (IP21) -10°C ~ +45°C (IP00) (Automatic OL protection curve based on ambient temperature setting of L8-12)
Storage Temperature	°C	-10°C ~ +60°C	-20°C ~ +60°C
Network Communications	Standard	Modbus RTU via RS232	Modbus RTU via terminal I/O RS485/422
	Optional	RS232 to RS485, DeviceNet, ProfibusDP, Interbus-S, Lonworks, ModbusPlus, CanOpen,CC-link	DeviceNet, Profibus-DP, Interbus-S, ControlNet, Ethernet, CC Link, CanOpen
Unique Feature / Function	-		HSB – High Slip Braking
Split front cover	-	No	Yes
Modular heat sink fan	-	No	Yes
I/O Terminal Arrangement	-	Numerically labeled	Alpha Numeric labels
Mounting Conversion Kit	-	Yes (G3 to GPD515/G5)	No

Product Transition Guide

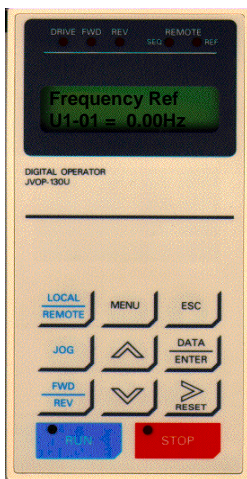
GPD515/G5 to F7

Digital Operator Comparison

- Enhanced LCD operator with built-in copy function and parameter verify for F7
- Optional LED operator available for F7
- LCD contrast adjustment
- Simplified parameter grouping for easier navigation and set-up
- The F7 has a similar key layout and parameter structure as GPD515/G5 for “ease” of programming

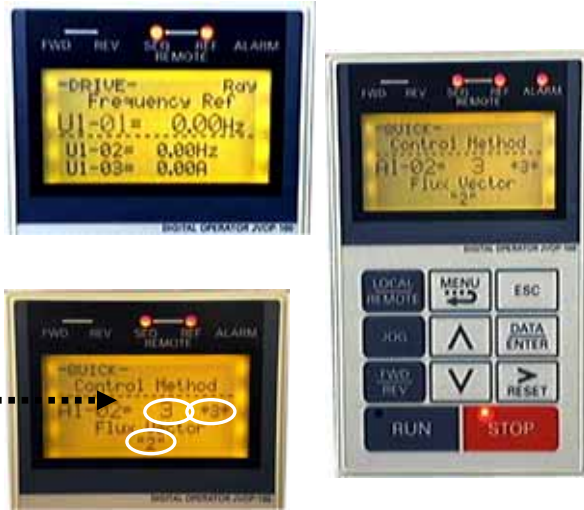
GPD515/G5 Operator

LCD Display
2 Line x 16 Characters



New F7 Operator

LCD Backlit Display
5 Line x 16 Characters



F7 operator indicates:

- Present selection
- Factory default setting
- Programmed value

- F7 copy keypad is capable of uploading all of the parameter settings from the F7 drive memory.
 - Upload of GPD515/G5 parameters to F7 not possible at this time
 - F7 Drives must have the same software version, model, and control mode to copy parameters.
- A Quick Start menu is added to aid in simple start-ups.
- The Quick Start menu consists of 26 parameters. The Advanced menu is the other menu choice.

Simplified Menu Structure in F7:

GPD515/G5	F7
Operation	Operation “DRIVE”
—	Quick Setting “QUICK”
Programming (Quick Start, Basic, Advanced)	Programming “ADV”
Modified Constants	Modified Constants “VERIFY”
Auto-Tuning	Auto-Tuning “A.TUNE”
Initialize	

Front Cover & Cooling Fan Comparison

GPD515/G5 Front Cover (not split)



F7 - New Split Front Cover

The F7 comes with a split cover to allow terminal only access. Limits exposed control PCB or power structure during wiring.



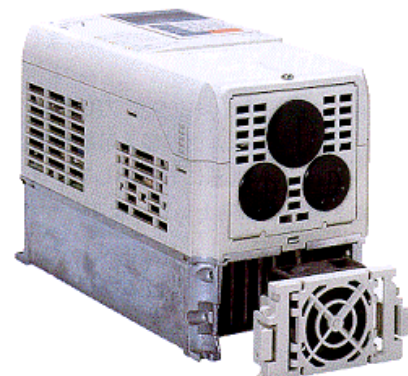
A decal with the terminal designations is displayed above the terminal block.

GPD515/G5 Cooling Fan



- The F7 features an easy to remove heat sink cooling fan.
- The fan operation can be controlled via programming parameters.
- Hours of fan operation can be viewed via the digital operator to aid in preventive maintenance.

F7 - New Modular Cooling Fan



Product Transition Guide

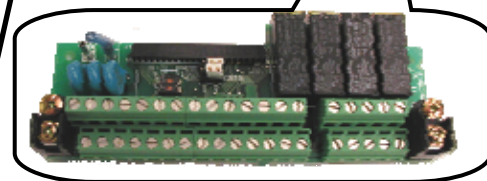
GPD515/G5 to F7

Main Control PCB Comparison

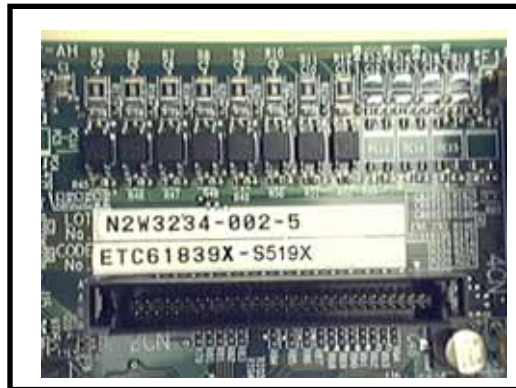
GPD515/G5 Control PCB



New F7 Control PCB



Removable F7 terminal block




Control PCB part number designation

Nameplate/ Labeling Differences

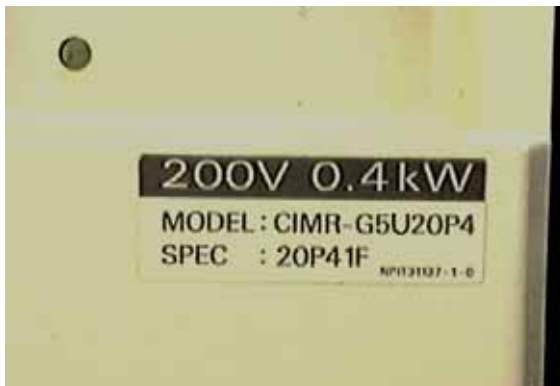
GPD515/G5 Side Nameplate

MODEL : CIMR-G5U43P7	SPEC : 43P71F
INPUT : AC 3PH 380-440V 50Hz 10.2A	
	380-460V 60Hz
OUTPUT : AC 3PH 0-460V 6.1KVA 8.5A	
LOT NO :	MASS : 4.5 kg
SER NO :	
UL FILE NO : E131457	Mg

F7 Side Nameplate

MODEL: CIMR-F7U20P4	SPEC: 20P41E
INPUT: AC3PH 200-240V 50/60Hz	HD:3.8A ND:4.3A
OUTPUT: AC3PH 0-240V 0-400Hz	HD:3.2A 1.2kVA ND:3.6A 1.4kVA
O/N:	MASS: 3.0kg
S/N:	PRG:
	
FILE NO: E131457	TYPE 1 ENCLOSURE IP20

GPD515/G5 Front Label



F7 Front Label



Product Transition Guide

GPD515/G5 to F7

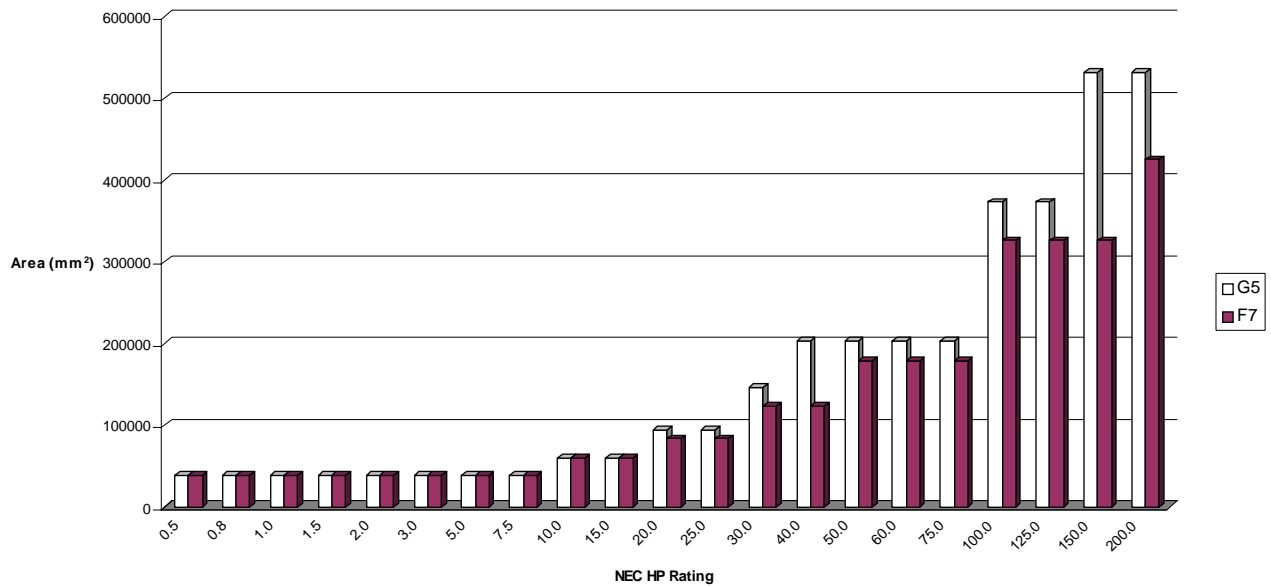
Physical Dimensions

Between 20 - 200 HP, the F7 is 18% smaller volume on average than the equivalent GPD515/G5.
 (See appendix 1)



Based on meeting NEC full load amp requirements, the F7 footprint can offer a space savings over the GPD515/G5.

F7 vs. G5 Footprint area



Note: 645.16 square mm to 1 square inch

GPD515/G7 to F7 Terminal Comparison

The factory default functions 2-wire control are shown

GPD515/G5 Terminal			F7 Terminal (Designations similar to GPD506/P5)			
Type	GPD515/G5 Terminal	Default Function	F7 Terminal	Default Function	F7 Description	
Digital Input Signals	1	Forward run/stop Signal level: (Photo-coupler insulated Input: +24VDC, 8mA)	S1	Forward run/stop command	–	
	2	Reverse run/stop	S2	Reverse run/stop command	–	
	3	External fault input	S3	External fault input	Multi-function digital inputs. Functions set by: H1-01 to H1-06. 24 VDC, 8 mA Photo coupler isolation	
	4	Fault reset input	S4	Fault reset		
	5	Master/Aux. change Multi-step speed ref.1	S5	Multi-step speed reference 1 (Master/auxiliary switch)		
	6	Multi-step speed ref.2	S6	Multi-step speed reference 2		
		7	Jog reference	S7	Jog frequency reference	Factory connected for internal supply sinking mode. Refer to F7 User Manual for other methods.
		8	External baseblock	S8	External baseblock N.O.	
		11	Sequence control input common	SN	Digital input common	
			–	SC	Factory connected to SP	
		–	SP	Factory connected to SC		
Analog Input Signals	15	+15V Power supply output for analog command (Allowable current 20 mA max.)	+V	+15Vdc power output	+15Vdc (Max. current: 20 mA)	
	33	-15V Power supply output for analog command (Allowable current 20mA max.)	-V	-15Vdc power output	-15Vdc (Max. current: 20 mA)	
	13	Master frequency ref. (voltage) -10 to +10V (20k ohms) 0 to +10V/(20k ohms)	A1	Analog input or speed command	0 to +10Vdc=100% 0 to +/-10Vdc =100% (H3-01) (20k ohm)	
	14	Master frequency ref. (current) 4 to 20mA (250 Ohms)	A2	Add to terminal A1	4 to 20 mA=100%/(250 ohms) 0 to +10Vdc=100%/(20kohm) Function set by H3-09.	
	16	Multi-function analog input -10 to +10V (20k ohms), 0 to +10V/(20k ohms)	A3	Aux. frequency reference 1	0 to +10Vdc=100%/(20 kohm) 0 to +/-10Vdc=100% Function set by H3-05	
	17	Common for control circuit 0V	AC	Analog common	–	
	12	Connection to shield sheath of signal lead	E(G)	Shield wire, optional ground line connection point	–	
Digital Output Signals	9	During running (NO contact) Dry contact capacity: 250VAC, 1A or less 30VDC, 1A or less	M1	During run (N.O. contact)	Form A Dry contacts capacity: 1 A max. at 250Vac 1 A max. at 30Vdc Multi-function digital output. Function set by H2-01.	
	10		M2			
	25	Zero speed detection Open collector output 48V, 50mA or less	M3	Zero speed (N.O. contact)	Form A Dry contacts capacity: 1 A max. at 250Vac 1 A max. at 30Vdc Multi-function digital output. Function set by H2-02.	
	27	Open collector output common	M4			

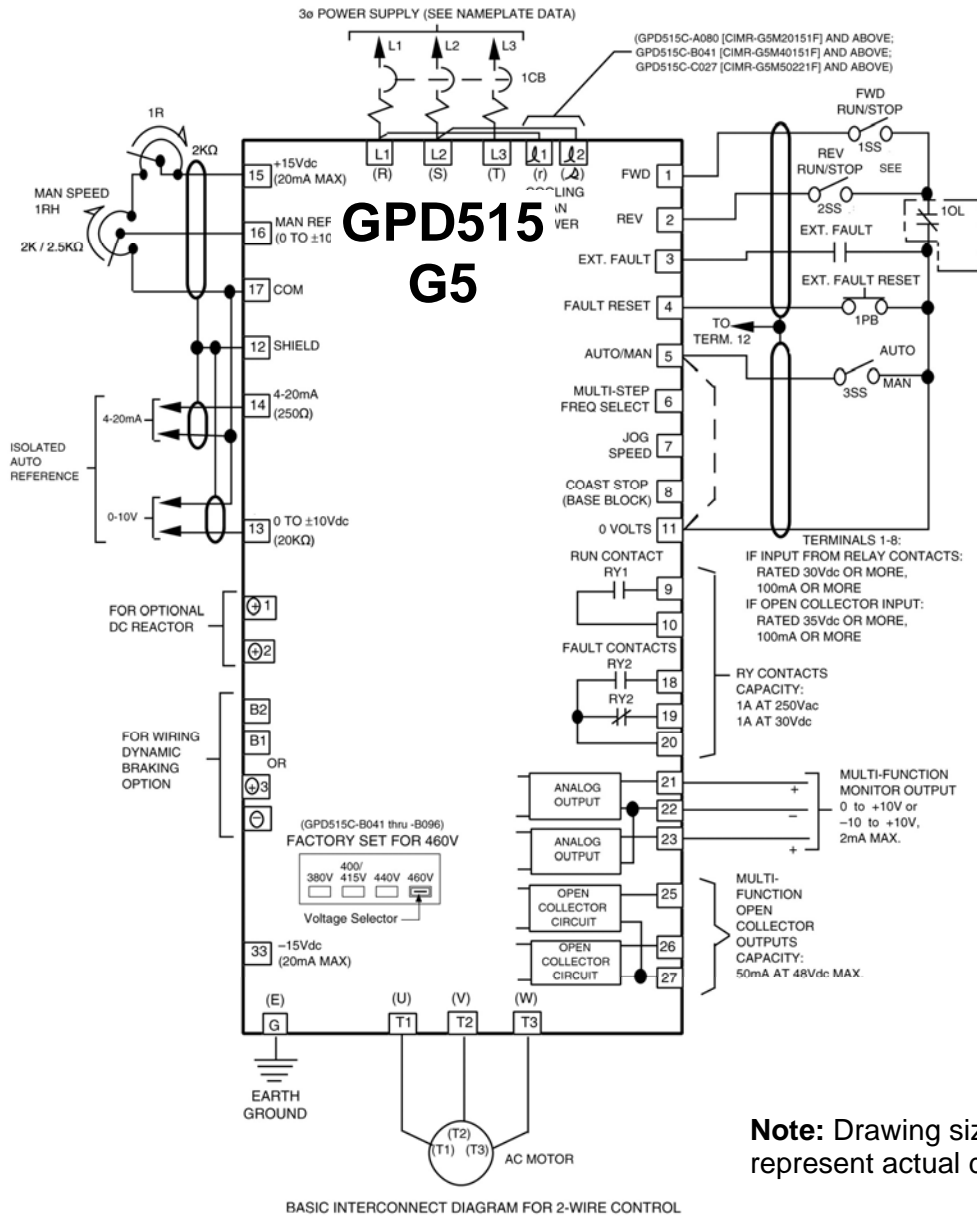
Product Transition Guide

Terminal Comparison

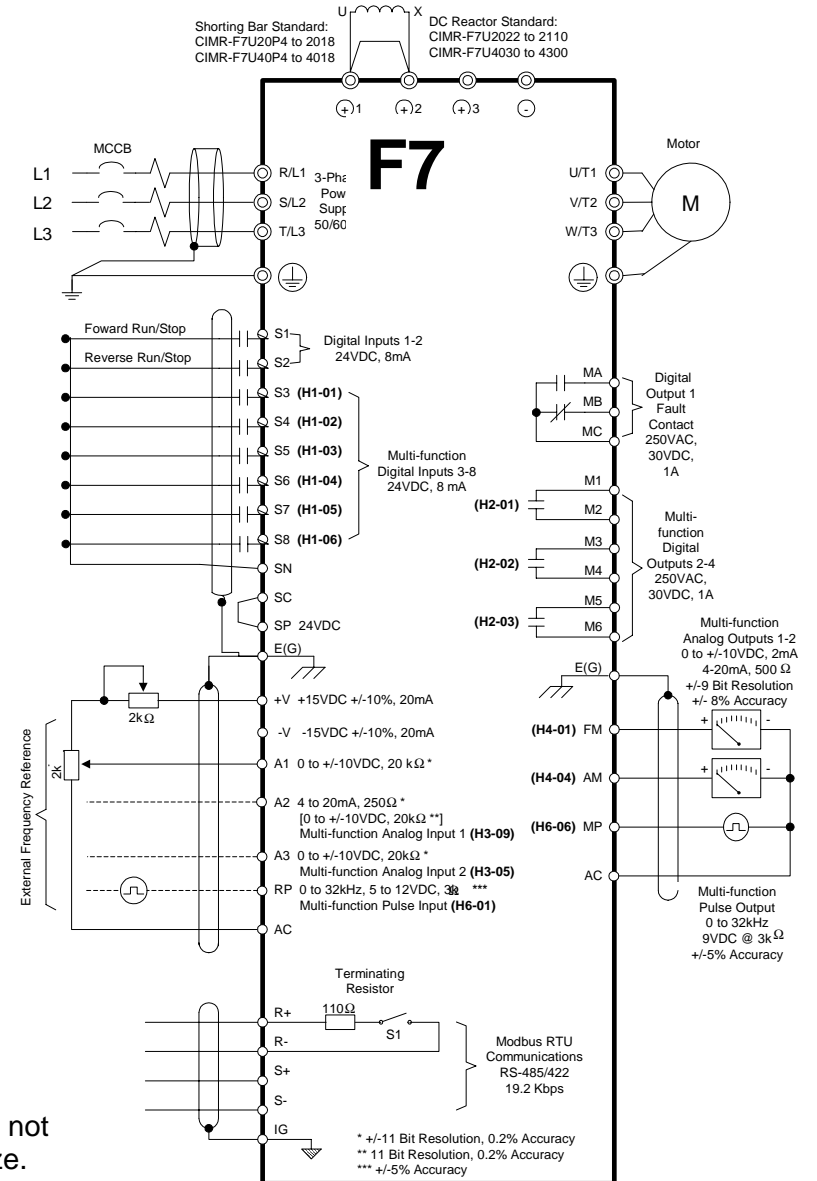
GPD515/G5 Terminal			F7 Terminal (Designations similar to GPD506/P5)		
Type	GPD515/G5 Terminal	Default Function	F7 Terminal	Default Function	F7 Description
Digital Output Signals (continued)	26	Speed agree detection Open collector output 48V, 50mA or less	M5	Frequency agree (N.O. contact)	Multi-function digital output. Function set by H2-03.
	27	Open collector output common	M6		
	18	Fault contact output (NO/NC contact)	MA	Fault output signal (SPDT)	Form C Dry contacts capacity: 1 A max. at 250Vac 1 A max. at 30Vdc
	19	When faulted : Closed between terminals 18 and 20	MB		
	20	Open between terminals 19 and 20 Dry contact capacity: 250VAC 1A or less, 30VDC 1A or less	MC		
Analog Output Signals	21	Frequency meter output 0 to ±10V/100% frequency 0 to ±11V Max. ±5% 2mA or less	FM	Output frequency	0 to +10Vdc or +/-10Vdc 500 ohm input 10V=100% Output frequency (Max current 2 mA). 4 to 20mA 20mA=100% Output frequency Function set by H4-01.
	23	Current monitor 5V/inverter rated current	AM	Output current	0 to +10Vdc or -10 to +10Vdc 500 ohm input 10V=100% Drive output current (Max current 2 mA) 4 to 20mA / 100% Drive's rated output current / Function set by H4-04.
	22	Common (Current Monitor)	AC	Analog common	-
Pulse I/O	-	-	RP	Pulse input	0 to 32kHz (3k ohms) ±5% High level voltages 3.5 to 13.2 Low level voltages 0.0 to 0.8 Duty Cycle (on/off) 30% to 70% Function set by H6-01.
	-	-	MP	Pulse monitor	0 to 32kHz +5V output (Load: 1.5k ohms) Function set by H6-06.
RS-485/422	-	-	R+	Modbus communication	-
	-	-	R-	Differential input, PHC isolation	
	-	-	S+	Modbus communication	
	-	-	S-	Differential output, PHC isolation	
	-	-	IG	Signal common	

Product Transition Guide

Terminal Comparison







Note: Drawing size does not represent actual drive size.



Product Transition Guide

GPD515/G5 to F7

Network Communications

GPD515/G5		F7
DeviceNet 		DeviceNet
		ControlNet
		EtherNet
Profi-Bus 		Profi-Bus
CanOpen 		CanOpen
Interbus-S 		Interbus-S
ModBus Plus		
		(New) Built-in RS-485
CC-Link		
		(New) Lon Works ²

² Available as an option based on market demands

Details on New F7 Features & Functions

Note: This section details only a few of the new F7 features.

New Auto Tuning

The F7 has three different Auto-tuning functions to help to optimize the drive performance: Leakage inductance is also auto-tuned, this improved torque linearity.

Feature	GPD515/G5	F7
Primary Resistance Auto-tuning	No	Yes
Static Auto-tuning	No	Yes
Dynamic Auto-tuning	Yes	Yes

Primary Resistance Auto-tuning

F7 performs a non-rotational stator resistance measurement. This method applies to the V/Hz modes only.

Static Auto-tuning

This tuning method is for motors that prohibit uncoupling of the load. This method involves no motor shaft rotation. This method applies to both the Open Loop Vector and Closed Loop Vector modes.

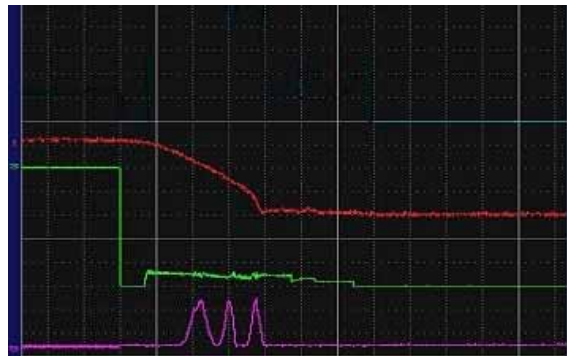
Dynamic Auto-tuning

This tuning method is for motors that are uncoupled from a load that allow motor shaft rotation. This method applies to both the Open Loop Vector and Closed Loop Vector modes.

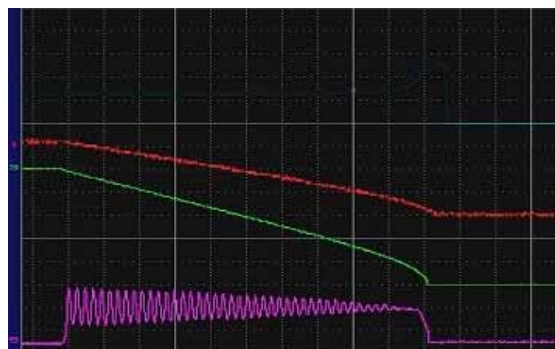
New High Slip Braking

The F7 incorporates a new braking function called High Slip Braking (HSB). By using a method that utilizes increased rotor slip, the drive will gain the capability of stopping up to 50% faster than without a braking resistor. All of this without the need of any external equipment or resistors!

Greater than 150% brake torque is possible.



Motor speed
Motor voltage
DC-Bus voltage



Motor speed
Motor voltage
DC-Bus voltage

Product Transition Guide

Duty Ratings for the F7

New "Heavy Duty" and "Normal Duty" ratings for the F7

The Drive's capacity is categorized on two types of load characteristics, Heavy Duty and Normal Duty. The table below explains which drive selections apply to each duty and the features provided with the selected duty. Parameter C6-01 affects the drives carrier frequency setting, and in some models, the 100% output current rating. The carrier frequency setting can change the overload capacity and maximum output frequency.

C6-01 Setting	Carrier Frequency	Output Current Ratings	Overload Capacity	Maximum Output Frequency
0: Heavy Duty (F7 default)	Low (2kHz)	Level A (Matches HD ³ nameplate rating)	150%	300 Hz
2: Normal Duty	Higher than Heavy Duty (Adjustable lower only) (Varies by model)	Level B > A (On some models, see table) (Matches ND ³ nameplate rating)	Varies by model (See Appendix 1)	400 Hz

Product	C6-01 Heavy/Normal Duty Setting
New F7	<p>C6-01 Drive Duty Selection Setting</p> <p>0: Heavy Duty (default)</p> <ul style="list-style-type: none"> Rated output current is HD (Heavy Duty) rating on drive nameplate. Overload Capacity is 150% for 1 min. Carrier frequency is fixed 1 at 2kHz Maximum output frequency is 300Hz. L8-15: OL2 Characteristic selection@low speed (=0 Disabled) - allows 150% for 1 minute at any frequency. <p>2: Normal Duty 2</p> <ul style="list-style-type: none"> Output current is ND (Normal Duty) rating on drive nameplate. Overload capacity varies by model. (See appendix 1) Setting C6-02 Carrier Frequency greater than default is prohibited. (Default is highest possible setting) Maximum output frequency is 400Hz. Fixed low speed protection method: Carrier is automatically lowered when output frequency is < 6.0 Hz and current is >100%. L8-15: OL2 Characteristic selection@low speed (=1 Enabled) expedites OL2 at low output frequencies- 6 Hz and below.
GPD515/G5	<p>Similar to (Normal Duty) but with 150% OL</p> <ul style="list-style-type: none"> Singular output current value on nameplate. Overload capacity is 150% for 1 min. Full range carrier adjustment C6-02 (Drive must be derated when carrier is set above default, software protected by OL2) Maximum output frequency is 400Hz. L8-15: Characteristic selection@low speed (=1 Enabled) expedites OL2

³ Technical manual and promotional material will only refer to Normal Duty and Heavy Duty. The term Normal Duty refers to Normal Duty 2 (C6-01=2) setting.

Appendix 1

Amps, Carriers, Overload, Dimension Comparison, Heat loss

Product Transition Guide

Appendix 1 –Amps, Carrier , Overload, Dimensions, Heat Loss

Output Amps, Carrier and Overload Comparison 240V Heavy Duty Ratings (C6-01=0)

240V F7 “Heavy Duty” Setting (C6-01=0)									
		F7				GPD515/G5 Model			
NEC HP 240V	NEC Amps	F7 Model CIMR-F7U	Output Amps Heavy Duty	Fc kHz Heavy Duty	Overload % Heavy Duty	GPD515/G5 Model CIMR-G5U	Output Amps	Fc kHz	OL %
0.5	2.2	20P41	3.2	2	150	20P41	3.2	15	150
0.75	3.2								
0.75	3.2	20P71	4.1	2	150	20P71	6	15	150
1	4.2	21P51	7	2	150				
1.5	6								
2	6.8					21P51	8	15	150
3	9.6	22P21	9.6	2	150	22P21	11	15	150
3	9.6	23P71	15	2	150				
5	15.2	25P51	23	2	150	23P71	17.5	15	150
7.5	22								
10	28	27P51	31	2	150	27P51	33	15	150
15	42	20111	45	2	150	20111	49	15	150
20	54	20151	58	2	150	20151	64	15	150
25	68	20181	71	2	150	20181	80	15	150
30	80	20221	85	2	150				
40	104	20301	115	2	150	20301	130	10	150
50	130	20370	145	2	150				
60	154	20450	180	2	150	20371	160	10	150
75	192	20550	215	2	150	20551	224	10	150
100	248	20750	283	2	150	20751	300	10	150
125	312	20900	346	2	150	20900	358	2	150
150	360	21100	415	2	120 ⁽¹⁾	21100	415	2	150
150	360								

(1) Heavy Duty overload current rating for model no. 21100 is 120% of rated output current for 60 seconds.

Product Transition Guide

Appendix 1 –Amps, Carrier , Overload, Dimensions, Heat Loss

480V Heavy Duty Ratings (C6-01=0)

480V F7 “Heavy Duty” Setting (C6-01=0)									
		F7				GPD515/G5 Model			
NEC HP 480V	NEC Amps	F7 Model CIMR-F7U	Output Amps Heavy Duty	Fc kHz Heavy Duty	Overload % Heavy Duty	GPD515/G5 Model CIMR-G5U	Output Amps	Fc kHz	OL%
0.5	1.1	40P41	1.8	2	150	40P41	1.8	15	150
0.75	1.6								
1	2.1	40P71	2.1	2	150	40P71	3.4	15	150
1.5	3	41P51	3.7	2	150				
2	3.4								
3	4.8	42P21	5.3	2	150	41P51	4.8	15	150
5.0	7.6	43P71	7.6	2	150	43P71	8	15	150
5.0	7.6	44P01	8.7	2	150				
7.5	11	45P51	12.5	2	150	44P01	11.7	15	150
10	14	47P51	17	2	150	45P51	14	15	150
15	21	40111	24	2	150	47P51	21	12.5	150
20	27	40151	31	2	150	40111	27	12.5	150
25	34	40181	39	2	150				
30	40	40221	45	2	150	40151	34	10	150
40	52	40301	60	2	150	40181	41	10	150
50	65	40371	75	2	150	40221	52	8	150
60	77	40451	91	2	150	40301	65	8	150
75	96	40551	112	2	150	40371	80	6	150
100	124	40750	150	2	150	40451	96	6	150
125	156	40900	180	2	150	40551	128	6	150
150	180					40751	165	6	150
						40901-	195	5	150
		41100	216	2	150	41101-	224	5	150
200	240	41320	260	2	150	41321-	270	5	150
250	302	41600	304	2	150	41601	302	5	150
300	361	41850	370	2	150	42200	450	2	150
350	414	42200	506	2	118 ⁽¹⁾				
400	477								
500	590	43000	675	2	120 ⁽¹⁾	43000	605	2	150

(1) Heavy Duty overload current rating for model no. 42200 is 118% and 43000 is 120% of rated output current for 60 seconds.

Product Transition Guide

Appendix 1 –Amps, Carrier , Overload, Dimensions, Heat Loss

240V Normal Duty Ratings (C6-01=2)

240V F7 “Normal Duty” Setting (C6-01=2)									
		F7				GPD515/G5 Model			
NEC HP 240V	NEC Amps	F7 Model CIMR-F7U	Output Amps Normal Duty	Fc kHz Normal Duty	Overload % Normal Duty	GPD515/G5 Model CIMR-G5U	Output Amps	Fc kHz	OL %
0.5	2.2	20P41	3.6	10	107	20P41	3.2	15	150
0.75	3.2								
1	4.2	20P71	4.6	10	107	20P71	6	15	150
1.5	6	21P51	7.8	10	108				
2	6.8					21P51	8	15	150
3	9.6	22P21	10.8	8	107	22P21	11	15	150
5	15.2	23P71	16.8	10	107	23P71	17.5	15	150
7.5	22	25P51	23	15	120	25P51	25	15	150
10	28	27P51	31	15	102	27P51	33	15	150
15	42	20111	46.2	8	117	20111	49	15	150
20	54	20151	59.4	10	117	20151	64	15	150
25	68	20181	74.8	10	114	20181	80	15	150
30	80	20221	88	10	116				
40	104	20301	115	10	120	20301	130	10	150
50	130	20370	162	5	107				
60	154					20371	160	10	150
75	192	20450	192	5	113	20551	224	10	150
75	192	20550	215	8	120				
100	248	20750	312	2	109	20751	300	10	150
125	312					20900	358	2	150
150	360	20900	360	2	115	21100	415	2	150
150	360	21100	415	2	120				

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Appendix 1 –Amps, Carrier , Overload, Dimensions, Heat Loss

480V Normal Duty Ratings (C6-01=2)

480V F7 “Normal Duty” Setting (C6-01=2)									
		F7				GPD515/G5 Model			
NEC HP 480V	NEC Amps	F7 Model CIMR-F7U	Output Amps Normal Duty	Fc kHz Normal Duty	Overload % Normal Duty	GPD515/G5 Model CIMR-G5U	Output Amps	Fc kHz	OL %
0.5	1.1	40P41	1.8	15	120	40P41	1.8	15	150
0.75	1.6	40P41							
1	2.1	40P71	2.1	15	120	40P71	3.4	15	150
1.5	3	41P51	3.7	15	120				
2	3.4	41P51	5.3	15	120	40P71	3.4	15	150
3	4.8	42P21				4.8	15	150	
5.0	7.6	43P71	7.6	15	120	43P71	8	15	150
5.0	7.6	44P01	8.7	15	120				
7.5	11	45P51	12.5	15	120	44P01	11.7	15	150
10	14	47P51	17	15	120	45P51	14	15	150
15	21	40111	27	8	107	47P51	21	12.5	150
20	27	40111				40111	27	12.5	150
25	34	40151	34	10	109	40151	34	10	150
30	40	40181	40	10	117	40181	41	10	150
40	52	40301	67.2	8	107	40221	52	8	150
50	65	40301				40301	65	8	150
60	77	40371	77	8	117	40371	80	6	150
75	96	40451	96	8	114	40451	96	6	150
100	124	40551	125	5	108	40551	128	6	150
125	156	40750	156	5	115	40751	165	6	150
150	180	40900	180	8	120	40901-	195	5	150
						41101-	224	5	150
200	240	41100	240	5	108	41321-	270	5	150
200	240	41320	260	5	120				
250	302	41600	304	5	120	41601	302	5	150
300	361	41850	414	2	107	42200	450	2	150
350	414	41850							
400	477	42200	515	2	118	43000	605	2	150
450	515								
500	590	43000	675	2	120				
550	660	43000				-	-	-	-

Product Transition Guide

Appendix 1 –Amps, Carrier , Overload, Dimensions, Heat Loss

Panel Cut-out Data (F7 and GPD515/G5)						
Model	GPD515/G5		F7	Panel Cut-out Area (mm ²)		
	W (mm)	H (mm)	W (mm)	H (mm)	GPD515G5	F7
20P4	138	271	138	271	37398	37398
20P7	138	271	138	271	37398	37398
21P5	138	271	138	271	37398	37398
22P2	138	271	138	271	37398	37398
23P7	138	271	138	271	37398	37398
25P5	180	298	138	271	53640	37398
27P5	180	298	197	298	53640	58706
2011	200	377	197	298	75400	58706
2015	200	377	233	353	75400	82249
2018	300	404	233	353	121200	82249
2022	300	404	244	369	121200	90036
2030	380	627	269	419	238260	112711
2037	380	627	359	545	238260	195655
2045	451	756	359	545	340956	195655
2055	451	756	434	673	340956	292082
2075	555	894	434	673	496170	292082
2090	630	915	484	782	576450	378488
2110	630	915	555	817	576450	453435
40P4	138	271	138	271	37398	37398
40P7	138	271	138	271	37398	37398
41P5	138	271	138	271	37398	37398
42P2	138	271	138	271	37398	37398
43P7	138	271	138	271	37398	37398
45P5	180	298	138	271	53640	37398
47P5	180	298	197	298	53640	58706
4011	200	377	197	298	75400	58706
4015	200	377	233	353	75400	82249
4018	300	404	233	353	121200	82249
4022	300	404	269	419	121200	112711
4030	309	571	269	419	176439	112711
4037	309	571	309	519	176439	160371
4045	309	571	309	519	176439	160371
4055	440	761	309	519	334840	160371
4075	440	761	434	673	334840	292082
4090	555	894	434	673	496170	292082
4110	555	894	484	782	496170	378488
4132	555	894	484	782	496170	378488
4160	555	894	555	817	496170	453435
4185	875	1324			1158500	
4220	875	1324			1158500	
4300	873	1475			1287675	

Mounting Hole Data (F7 and GPD515/G5)				
Model	GPD515 G5 (mm)		F7 (mm)	
	W1	H1	W1	H1
20P4	126	266	126	266
20P7	126	266	126	266
21P5	126	266	126	266
22P2	126	266	126	266
23P7	126	266	126	266
25P5	186	285	126	266
27P5	186	285	186	285
2011	236	365	186	285
2015	236	365	216	335
2018	275	435	216	335
2022	275	435	195	385
2030	320	650	220	435
2037	320	650	250	575
2045	370	775	250	575
2055	370	775	325	700
2075	445	895	325	700
2090	600	940	370	820
2110	600	940	445	855
40P4	126	266	126	266
40P7	126	266	126	266
41P5	126	266	126	266
42P2	126	266	126	266
43P7	126	266	126	266
45P5	186	285	126	266
47P5	186	285	186	285
4011	236	365	186	285
4015	236	365	216	335
4018	275	435	216	335
4022	275	435	220	435
4030	275	610	220	435
4037	275	610	260	535
4045	275	610	260	535
4055	350	795	260	535
4075	350	795	325	700
4090	445	895	325	700
4110	445	895	370	820
4132	445	895	370	820
4160	445	895	445	895
4185	750	1400	540	1270
4220	750	1400	540	1270
4300	750	1550	730	1440

Note: 645.16 sq. cm =1 sq. in

Product Transition Guide

Appendix 1 –Amps, Carrier , Overload, Dimensions, Heat Loss

Heat Loss Data (F7 and GPD515/G5)									
Model	GPD515/G5 (W)			F7 (W)			% of GPD515/G5 (W) compared to F7		Total % of Internal/External GPD515/G5 (W) compared to F7
	Internal	External	Total	Internal	External	Total	Internal	External	
20P4	50	15	65	39	19	58	78.0%	126.7%	89.2%
20P7	65	25	90	42	26	68	64.6%	104.0%	75.6%
21P5	80	40	120	50	48	98	62.5%	120.0%	81.7%
22P2	60	80	140	59	68	127	98.3%	85.0%	90.7%
23P7	80	135	215	74	110	184	92.5%	81.5%	85.6%
25P5	90	210	300	84	164	248	93.3%	78.1%	82.7%
27P5	110	235	345	113	219	332	102.7%	93.2%	96.2%
2011	160	425	585	168	357	525	105.0%	84.0%	89.7%
2015	200	525	725	182	416	598	91.0%	79.2%	82.5%
2018	230	655	885	208	472	680	90.4%	72.1%	76.8%
2022	280	830	1110	252	583	835	90.0%	70.2%	75.2%
2030	440	930	1370	333	883	1216	75.7%	94.9%	88.8%
2037	620	1110	1730	421	1010	1431	67.9%	91.0%	82.7%
2045	660	1380	2040	499	1228	1727	75.6%	89.0%	84.7%
2055	890	1740	2630	619	1588	2207	69.6%	91.3%	83.9%
2075	1160	2050	3210	844	1956	2800	72.8%	95.4%	87.2%
2090	1430	2670	4100	964	2194	3158	67.4%	82.2%	77.0%
2110	1760	3240	5000	1234	2733	3967	70.1%	84.4%	79.3%
40P4	50	10	60	39	14	53	78.0%	140.0%	88.3%
40P7	65	20	85	41	17	58	63.1%	85.0%	68.2%
41P5	80	30	110	48	36	84	60.0%	120.0%	76.4%
42P2	60	65	125	56	59	115	93.3%	90.8%	92.0%
43P7	65	80	145	68	80	148	104.6%	100.0%	102.1%
44P0	80	120	200	70	90	160	87.5%	75.0%	80.0%
45P5	85	135	220	81	127	208	95.3%	94.1%	94.5%
47P5	120	240	360	114	193	307	95.0%	80.4%	85.3%
4011	150	305	455	158	232	390	105.3%	76.1%	85.7%
4015	180	390	570	169	296	465	93.9%	75.9%	81.6%
4018	195	465	660	201	389	590	103.1%	83.7%	89.4%
4022	260	620	880	233	420	653	89.6%	67.7%	74.2%
4030	315	705	1020	297	691	988	94.3%	98.0%	96.9%
4037	370	875	1245	332	801	1133	89.7%	91.5%	91.0%
4045	415	970	1385	386	901	1287	93.0%	92.9%	92.9%
4055	710	1110	1820	478	1204	1682	67.3%	108.5%	92.4%
4075	890	1430	2320	562	1285	1847	63.1%	89.9%	79.6%
4090	1050	1690	2740	673	1614	2287	64.1%	95.5%	83.5%
4110	1160	1870	3030	847	1889	2736	73.0%	101.0%	90.3%
4132	1360	2390	3750	1005	2388	3393	73.9%	99.9%	90.5%
4160	1520	2670	4190	1144	2791	3935	75.3%	104.5%	93.9%
4185	1510	3400	4910	1328	2636	3964	87.9%	77.5%	80.7%
4220	2110	4740	6850	1712	3797	5509	81.1%	80.1%	80.4%
4300	2910	6820	9730	2482	5838	8320	85.3%	85.6%	85.5%

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GPD515/G5 to F7

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Appendix 2 – Parameter Differences

The following parameter list shows the differences between GPD515/G5 and F7 parameters. Parameters not listed are identical between GPD515/G5 and F7. Refer to the F7 instruction manual for details on specific parameter functions. Parameters are listed alphabetically by GPD515/G5.

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Appendix 2- Parameter Differences

GPD515/G5 Parameters			F7 Parameters		
Parameter No.	Name (Digital Operator Display)	Setting or Selection	Parameter No.	Name (Digital Operator Display)	Remarks on Setting or Selection
A1-01	Access Level	0: Operation Only 1: User Level 2: Quick-Start [Q] 3: Basic Level [B] 4: Advanced Level [A]	A1-01	Access Level Selection	0: Operation Only 1: User Level Modified selection: 2: Advanced Level
B1-01	Reference Selection	0: Operator 1: Terminals 2: Communication Serial Com 3: Option PCB 4: EWS Reference from CP-717	b1-01	Reference Selection	Changed to: 4: Pulse Input
B1-02	Operation Method Selection	0: Operator 1: Terminals 2: Communication Serial Com 3: Option PCB 4: EWSRun from CP-717	b1-02	Run Command Selection	Removed selection 4: 4: EWSRun from CP-717
B1-04	Reverse Operation Prohibit	0: Reverse Enabled 1: Reverse Disabled	b1-04	Reverse Operation Selection	Additional function: 2: Exchange Phase - Change direction of forward motor rotation.
B3-01	Speed Search Selection at Start	0: Disabled 1: Enabled	b3-01	Speed Search Selection	Modified selections: 0: Speed Estimation Speed Search Disable 1: Speed Estimation Speed Search Enable 2: Current Detection Speed Search Disable 3: Current Detection Speed Search Enable
—	—	—	b3-05	Speed Search Delay Time	New Parameter
—	—	—	b3-10	Speed Search Detection Compensation Gain	New Parameter
—	—	—	b3-14	Bi-directional Speed Search Selection	New Parameter 0: Disable . 1: Enable
—	—	—	b5-15	Sleep Function Start Level	New Parameter
—	—	—	b5-16	Sleep Delay Time	New Parameter
—	—	—	b5-17	PID Accel/Decel Time	New Parameter
—	—	—	b5-18	PID Setpoint Selection	New Parameter 0:Disabled 1:Enabled
—	—	—	b5-19	PID Setpoint Value	New Parameter
B8-03	Energy -saving Mode Selection	0:Disabled 1:Enabled	b8-01	Energy Saving Control Selection	Changed Parameter No. 0: Disabled 1: Enabled
B8-04	Energy-saving Control Gain	—	b8-02	Energy Saving Gain	Changed Parameter No.
B8-05	Energy-saving Control Time Constant	—	b8-03	Energy Saving Control Filter Time Constant	Changed Parameter No.
—	—	—	b8-04	Energy Saving Coefficient Value	New Parameter
—	—	—	b8-05	Power Detection Filter Time	—
—	—	—	b8-06	Search Operation Voltage Limit	—
C3-06	Output Voltage Limit Operation Selection	0:Disabled 1:Enabled	C3-05	Output Voltage Limit Operation Selection	Changed Parameter No.

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Appendix 2- Parameter Differences

GPD515/G5 Parameters			F7 Parameters		
Parameter No.	Name (Digital Operator Display)	Setting or Selection	Parameter No.	Name (Digital Operator Display)	Remarks on Setting or Selection
—	—	—	C6-01	Drive Duty Selection	New parameter 0: Heavy Duty 1: Normal Duty 1 2: Normal Duty 2
—	—	—	C6-02	Carrier Frequency Selection	New parameter function different than old C6-02 in GPD515/G5 0: Low noise 1: Fc = 2.0 kHz 2: Fc = 5.0 kHz 3: Fc = 8.0 kHz 4: Fc = 10.0 kHz 5: Fc = 12.5 kHz 6: Fc = 15.0 kHz F: Program Determined by the settings of C6-03 thru C6-05
C6-01	Carrier Frequency Upper Limit	—	C6-03	Carrier Frequency Upper Limit	Changed Parameter No.
C6-02	Carrier Frequency Lower Limit	—	C6-04	Carrier Frequency Lower Limit	Changed Parameter No.
C6-03	Carrier Frequency Proportional Gain	—	C6-05	Carrier Frequency Proportional Gain	Changed Parameter No.
C7-01	Hunting Prevention Selection	0:Disabled 1:Enabled	n1-01	Hunting Prevention Selection	Changed Parameter No.
C7-02	Hunting Prevention Gain	—	n1-02	Hunting Prevention Gain Setting	Changed Parameter No.
C8-08	AFR Gain	—	n2-01	Speed Feedback Detection Control AFR Gain	Changed Parameter No.
C8-09	AFR Time Constant	—	n2-02	AFR Time	Changed Parameter No.
—	—	—	n2-03	Speed Feedback Detection Control AFR Time Constant 2	New parameter Sets the time constant to control the amount of change in the speed at low speed.
—	—	—	d1-09	Frequency Reference 9	New Parameter
—	—	—	d1-10	Frequency Reference 10	New Parameter
—	—	—	d1-11	Frequency Reference 11	New Parameter
—	—	—	d1-12	Frequency Reference 12	New Parameter
—	—	—	d1-13	Frequency Reference 13	New Parameter
—	—	—	d1-14	Frequency Reference 14	New Parameter
—	—	—	d1-15	Frequency Reference 15	New Parameter
—	—	—	d1-16	Frequency Reference 16	New Parameter
D1-09	Jog Frequency Reference	—	d1-17	Jog Frequency Reference	Changed Parameter No.
—	—	—	d2-03	Master Speed Reference Lower Limit	New Parameter
—	—	—	d6-01	Magnetic Field Weakening Level	New Parameter
—	—	—	d6-02	Magnetic Field Frequency	New Parameter

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Appendix 2- Parameter Differences

GPD515/G5 Parameters			F7 Parameters		
Parameter No.	Name (Digital Operator Display)	Setting or Selection	Parameter No.	Name (Digital Operator Display)	Remarks on Setting or Selection
—	—	—	d6-03	Magnetic Field Forcing Function Selection	New Parameter 0:Disabled 1:Enabled
E1-02	Motor Selection	0:Std Fan-Cooled 1:Std Blower-Cooled 2:Vector Motor	L1-01	Motor Overload Protection Selection	Changed Parameter No. Additional selection 0: Disabled 1: Standard Fan Cooled 2: Standard Blower Cooled 3: Vector Motor
—	—	—	E2-11	Motor Rated Output	New Parameter This value is automatically set during auto tuning.
E4-01	Motor 2 Max. Output Frequency	—	E3-02	Motor 2 Maximum Output Frequency	Changed Parameter No.
E4-02	Motor 2 Max. Voltage	—	E3-03	Motor 2 Maximum Output Voltage	Changed Parameter No.
E4-03	Motor 2 Max. Voltage Frequency Base Frequency	—	E3-04	Motor 2 Base Frequency Base Frequency	Changed Parameter No.
E4-04	Motor 2 Mid. Output Frequency 1 Mid Frequency	—	E3-05	Motor 2 Mid Output Frequency Mid Frequency	Changed Parameter No.
E4-05	Motor 2 Mid. Output Frequency Voltage 1 Mid Voltage	—	E3-06	Motor 2 Mid Output Voltage VA Mid Voltage	Changed Parameter No.
E4-06	Motor 2 Min. Output Frequency Min Frequency	—	E3-07	Motor 2 Minimum Output Frequency Min Frequency	Changed Parameter No.
E4-07	Motor 2 Min. Output Frequency Voltage Min Voltage	—	E3-08	Motor 2 Minimum Output Voltage Min Voltage	Changed Parameter No.
E5-01	Motor 2 Rated Current	—	E4-01	Motor 2 Rated Current	Changed Parameter No.
E5-02	Motor 2 Rated Slip	—	E4-02	Motor 2 Rated Slip	Changed Parameter No.
E5-03	Motor 2 No-load Current	—	E4-03	Motor 2 No-Load Current	Changed Parameter No.
E5-04	Motor 2 Number of poles	—	E4-04	Motor 2 Number of Poles	Changed Parameter No.
E5-05	Motor 2 Line-to-line Resistance	—	E4-05	Motor 2 Line-to-Line Resistance	Changed Parameter No.
E5-06	Motor 2 Leak Inductance	—	E4-06	Motor 2 Leakage Inductance	Changed Parameter No.
—	—	—	E4-07	Motor 2 Rated Output	New Parameter This value is automatically set during auto-tuning.
—	—	—	F4-07	AO-12 Channel 1 Signal Level	New Parameter Sets the range of the voltage output. 0: 0 to 10 Vdc 1: -10 to +10 Vdc
—	—	—	F4-08	AO-12 Channel 2 Signal Level	New Parameter Sets the range of the voltage output. 0: 0 to 10 Vdc 1: -10 to +10 Vdc

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Appendix 2- Parameter Differences

GPD515/G5 Parameters			F7 Parameters		
Parameter No.	Name (Digital Operator Display)	Setting or Selection	Parameter No.	Name (Digital Operator Display)	Remarks on Setting or Selection
—	—	—	F5-03	DO-08 Channel 3 Output Selection	New Parameter
—	—	—	F5-04	DO-08 Channel 4 Output Selection	New Parameter
—	—	—	F5-05	DO-08 Channel 5 Output Selection	New Parameter
—	—	—	F5-06	DO-08 Channel 6 Output Selection	New Parameter
—	—	—	F5-07	DO-08 Channel 7 Output Selection	New Parameter
—	—	—	F5-08	DO-08 Channel 8 Output Selection	New Parameter
—	—	—	F5-09	DO-08 Output Mode Selection	New Parameter 0:8-channel individual outputs. 1:Binary code output. 2:Output according to F5-01 to F5-08 settings.
F9-02	Option External Fault Detection Selection	0:Always Detected 1:Only During Run	F6-02	Option External Fault Detection Selection	Changed Parameter No.
F9-03	Option External Fault Detection Operation Selection	0: Ramp to Stop 1: Coast to Stop 2: Fast - Stop 3: Alarm Only	F6-03	Option External Fault Detection Operation Selection	Changed Parameter No.
F9-04	Trace Sampling Time	—	F6-04	Trace Sampling from Communications Option Board	Changed Parameter No.
—	—	—	F6-05	Current Monitor Display Unit Selection	New Parameter 0: Displayed in Amps 1: 100%/8192
F9-05	TorqueReference/Torque Limit Selection through DP-RAM communication	0: Disabled 1: Enabled	F6-06	Torque Reference/Torque Limit Selection through DP- RAM communication	Changed Parameter No.
F9-06	DP-RAM Communication Error Detection Operation Selection	0:Ramp to Stop 1:Coast to Stop 2:Fast - Stop 3:Alarm Only	F6-01	DP-RAM Communication Error Detection Operation Selection	Changed Parameter No.

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Appendix 2- Parameter Differences

GPD515/G5 Parameters			F7 Parameters		
Parameter No.	Name (Digital Operator Display)	Setting or Selection	Parameter No.	Name (Digital Operator Display)	Remarks on Setting or Selection
H1-01	Terminal 3 Selection	Multi-function input terminal 3 0: 3-Wire Control 1: Local/Remote Selection 2: Option/Inverter Selection 3: Multi-Step Reference 1 4: Multi-Step Reference 2 5: Multi-Step Reference 3 6: Jog Frequency Reference 7: Multi-Accel/Decel 1 8: External Baseblock N.O. 9: External Baseblock N.C. A: Accel/Decel Ramp Hold B: OH2 Alarm Signal C: Terminal 16 Enable D: V/F Mode Select E: ASR Integral Reset F: Terminal Not Used 10: MOP Increase 11: MOP Decrease 12: Forward Jog 13: Reverse Jog 14: Fault Reset 15: Fast-Stop N.O. 16: Motor 2 Select 17: Fast Stop N.C. input 18: Timer Function 19: PID Disable 1A: Multi-Accel/Decel 2 1B: Program Lockout 1C: Trim Control Increase 1D: Trim Control Decrease 1E: Ref Sample Hold 1F: Terminal 13/14 Switch 24: External Fault 30: PID Integral Reset 31: PID Control Integral Hold 60: DC Injection Activate 61: Speed Search 1 62: Speed Search 2 63: Energy Save Mode 64: Speed Search 3 65: KEB Ridethrough N.C. 66: KEB Ridethrough N.O 71: Speed/Torque Control Change 72: Zero Servo Command 77: ASR Gain Switch	H1-01	Multi-Function Digital Input Terminal S3 Function Selection	Modified selection: C: Terminal A2 Enable Additional selections: 32: Multi-Step Reference 4 34: PID Soft Starter Cancel 35: PID Input Error Polarity Change 67: Communications Test Mode 68: High Slip Braking 69: Jog 2 6A: Drive Enable 78: Polarity Reversing Command for External Torque Control
H1-02	Terminal 4 Selection	—	H1-02	Multi-Function Digital Input Terminal S4 Function Selection	Terminal number renamed
H1-03	Terminal 5 Selection	—	H1-03	Multi-Function Digital Input Terminal S5 Function Selection	Terminal number renamed
H1-04	Terminal 6 Selection	—	H1-04	Multi-Function Digital Input Terminal S6 Function Selection	Terminal number renamed
H1-05	Terminal 7 Selection	—	H1-05	Multi-Function Digital Input Terminal S7 Function Selection	Terminal number renamed
H1-06	Terminal 8 Selection	—	H1-06	Multi-Function Digital Input Terminal S8 Function Selection	Terminal number renamed

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Appendix 2- Parameter Differences

GPD515/G5 Parameters			F7 Parameters		
Parameter No.	Name (Digital Operator Display)	Setting or Selection	Parameter No.	Name (Digital Operator Display)	Remarks on Setting or Selection
H2-01	Multi-function Input Terminal 9-10	—	H2-01	Terminal M1-M2 Function Selection	Additional selections: 32: During Speed Limit 38: Drive Enable
H2-02	Multi-function Input Terminal 25	—	H2-02	Terminal M3-M4 Function Selection	Terminal number renamed
H2-03	Multi-function Input Terminal 26	—	H2-03	Terminal M5-M6 Function Selection	Terminal number renamed
H3-01	Signal Level Selection Terminal 13	—	H3-01	Terminal A1 Signal Level Selection	Terminal number renamed
H3-02	Terminal 13 Gain	Frequency reference gain of AI-14U, AI-14B 3ch addition input, DI-08, and DI-16 is common.	H3-02	Terminal A1 Gain Setting	Terminal number renamed
H3-03	Terminal 13 Bias		H3-03	Terminal A1 Bias Setting	Terminal number renamed
H3-04	Terminal 16 Signal Level Selection	0:0 - 10 VDC 1:10 +10 VDC	H3-04	Terminal A3 Signal Level Selection	Terminal number renamed
H3-05	Terminal 16 Multifunction Analog Input	Multi-function analog input selection terminal 16 0: Auxiliary Reference 1: Frequency Gain 2: Frequency Bias 4: Voltage Bias 5: Accel/Decel Change 6: DC Brake Current 7: Overtorque Level 8: Stall Prevention Level 9: Reference Lower Limit A: Jump Frequency B: PID Feedback C: PID Setpoint D: Frequency Bias 2 10: Forward Torque Limit 11: Reverse Torque Limit 12: Regenerative Torque Limit 13: Torque reference 14: Torque Compensation 15: Forward/Reverse Torque Limit 1F: Not Used			Modified selection: 2: Aux Frequency Reference 1 Used in conjunction with multi-function inputs “multi-step frequency reference 1-4”. Additional 3: Aux Frequency Reference 2 Used in conjunction with multi-function inputs “multi-step frequency reference 1-4”. E: Motor Temperature See parameters L1-03 & L1-04.
H3-06	Terminal 16 Gain	—	H3-06	Terminal A3 Gain Setting	Terminal number renamed
H3-07	Terminal 16 Bias	—	H3-07	Terminal A3 Bias Setting	Terminal number renamed
H3-08	Signal Level Selection Terminal 14	—	H3-08	Terminal A2 Signal Level Selection	Terminal number renamed
H3-09	Multi-function Analog Input Terminal 14	—	H3-09	Terminal A2 Function Selection	Terminal number renamed
H3-10	Terminal 14 Gain		H3-10	Terminal A2 Gain Setting	Terminal number renamed
H3-11	Terminal 14 Bias		H3-11	Terminal A2 Bias Setting	Terminal number renamed

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GPD515/G5 Parameters			F7 Parameters		
Parameter No.	Name (Digital Operator Display)	Setting or Selection	Parameter No.	Name (Digital Operator Display)	Remarks on Setting or Selection
H4-01	Monitor Selection Terminal 21	Analog output selection terminal 21 same as F4-01 1: Frequency reference 2: Output frequency 3: Inverter output current 5: Motor speed 6: Output voltage 7: DC bus voltage 8: Output power 9: Torque reference internal 15: External terminal 13 input voltage 16: External terminal 14 input voltage 17: External terminal 16 input voltage 18: Motor secondary current Iq 19: Motor excitation current Id 20: Primary frequency after SFS 21: Speed controller ASR input 22: Speed controller ASR output 23: Speed deviation 24: PID feedback 26: Voltage reference Vq output 27: Voltage reference Vd output 31: Not Used 32: ACR q Output 33: ACR d Output 36: PID Input 37: PID Output 38: PID Reference	H4-01	H4-01 Terminal FM Monitor Selection	Terminal number renamed 15: Terminal A1 Input Level 100% = 10Vdc 16: Terminal A2 Input Level 100% = 10Vdc or 20mA 17: Terminal A3 Input Level 100% = 10Vdc Deleted 32: ACR q Output 33: ACR d Output Additional: 45: Feedforward Control Output
H4-02	Terminal 21 Output Gain	—	H4-02	Terminal FM Gain Setting	Terminal number renamed
H4-03	Terminal 21 Output Bias	—	H4-03	Terminal FM Bias Setting	Terminal number renamed
H4-04	Terminal 23 Monitor	—	H4-04	Terminal AM Monitor Selection	Terminal number renamed
H4-05	Terminal 23 Output Gain	—	H4-05	Terminal AM Gain Setting	Terminal number renamed
H4-06	Terminal 23 Output Bias	—	H4-06	Terminal AM Bias Setting	Terminal number renamed
H4-07	Analog Output Signal Selection	0: 0 - +10 VDC 1: 10V +10 VDC	H4-07	Terminal FM Signal Level Selection	Terminal number renamed 0: 0 - 10 Vdc 1: -10 to +10V 2: 4-20 mA* * Set the analog output jumper CN15 in the proper position.
—	—	—	H4-08	Terminal AM Signal Level Selection	New Parameter 0: 0 - 10 Vdc 1: -10 to +10V 2: 4-20 mA* * Set the analog output jumper CN15 in the proper position.
H5-04	Stopping Method After Communication Error	0: Ramp to Stop 1: Coast to Stop 2: Fast - Stop 3: Alarm Only			Additional selection: 4: Run at D1-04
—	—	—	H5-06	Drive Transmit Wait Time	New parameter
—	—	—	H5-07	RTS Control Selection	New parameter 0: Disabled RTS is always on 1: Enabled RTS turns on only when sending

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Appendix 2- Parameter Differences

GPD515/G5 Parameters			F7 Parameters		
Parameter No.	Name (Digital Operator Display)	Setting or Selection	Parameter No.	Name (Digital Operator Display)	Remarks on Setting or Selection
—	—	—	H5-07	RTS Control Selection	New parameter 0: Disabled RTS is always on 1: Enabled RTS turns on only when sending
—	—	—	H6-01	Pulse Train Input Function Selection	New parameter 0: Frequency reference 1: PID feedback value 2: PID setpoint value
—	—	—	H6-02	Pulse Train Input Scaling	New parameter
—	—	—	H6-03	Pulse Train Input Gain	New parameter
—	—	—	H6-04	Pulse Train Input Bias	New parameter
—	—	—	H6-05	Pulse Train Input Filter Time	New parameter
—	—	—	H6-06	Pulse Train Monitor Selection	New parameter
—	—	—	H6-07	Pulse Train Monitor Scaling	New parameter
L1-01	Motor Protection Selection MOL Fault Select	0:Disabled 1:Coast to Stop See: GPD515/G5 E1-02	L1-01	Motor Overload Protection Selection	Modified function 0: Disabled 1: Fan Cooled <10:1 motor 2:Blower Cooled 10:1 motor 3: Vector Motor 1000:1 motor
—	—	—	L1-03	Motor Overheat Alarm Operation Selection	New parameter 0: Ramp to Stop 1: Coast to Stop 2: Fast-Stop 3: Alarm Only
—	—	—	L1-04	Motor Overheat Fault Operation Selection	New parameter 0: Ramp to Stop 1: Coast to Stop 2: Fast-Stop
—	—	—	L1-05	Motor Temperature Input Filter Time	New parameter
—	—	—	L2-07	Momentary Recovery Time	New parameter
—	—	—	L2-08	Frequency Reduction Gain at KEB Start	New parameter
L3-07	Stall Prevention Function P Gain	—	—	—	Deleted in F7
L3-08	Stall Prevention Function Integral Time	—	—	—	Deleted in F7
L4-05	Frequency Loss Detection Selection	0: Stop 1: Run@ 80% PrevRef	L4-05	Frequency Reference Loss Detection Selection	Modified function 0: Normal Operation - Drive will run at the frequency reference. 1: Run at L4-06 PrevRef Drive will run at the percentage set in L4-06
—	—	—	L4-06	Frequency Reference Level at Loss Frequency	New parameter

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Appendix 2- Parameter Differences

GPD515/G5 Parameters			F7 Parameters		
Parameter No.	Name (Digital Operator Display)	Setting or Selection	Parameter No.	Name (Digital Operator Display)	Remarks on Setting or Selection
L6-01	Overtorque Detection Selection 1	0: Disabled 1: @SpdAgree - Alm 2: At RUN - Alarm 3: @SpdAgree - Flt 4:At RUN - Fault	L6-01	Torque Detection Selection 1	Additional selections: 5: UL3 at SpeedAgree - Alarm Undertorque Detection is only active during Speed Agree and operation continues after detection. 6: UL3 at RUN - Alarm Undertorque Detection is always active and operation continues after detection. 7: UL3 at Speed Agree - Fault Undertorque Detection only active during Speed Agree and drive output will shut down on an OL3 fault. 8: UL3 at RUN - Fault Undertorque Detection is always active and drive output will shut down on an OL3 fault.
L6-04	Overtorque Detection Selection 2	0: Disabled 1: @SpdAgree - Alm Detected during speed agree only. 2: At RUN - Alarm Overtorque detection during running. 3: @SpdAgree - Flt Detected during the speed agree only. 4: At RUN - Fault Detected during running, and the inverter trips on OL4.	L6-04	Torque Detection Selection 2	Additional selections: 5: UL4 at SpeedAgree - Alarm Undertorque Detection is only active during Speed Agree and operation continues after detection. 6: UL4 at RUN - Alarm Undertorque Detection is always active and operation continues after detection. 7: UL4 at Speed Agree - Fault Undertorque Detection only active during Speed Agree and drive output will shut down on an OL4 fault. 8: UL4 at RUN - Fault Undertorque Detection is always active and drive output will shut down on an OL4 fault.
L8-10	Short-circuit Protection Selection	0:Disabled 1: Enabled	L8-09	Output Ground Fault Detection Selection	Changed parameter number 0: Disabled 1: Enabled
—	—	—	L8-10	Heatsink Cooling Fan Operation Selection	New parameter 0: Fan On-Run Mode 1: Fan Always On
—	—	—	L8-11	Heatsink Cooling Fan Operation Delay Time	New parameter
—	—	—	L8-12	Ambient Temperature Setting	New parameter

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GPD515/G5 Parameters			F7 Parameters		
Parameter No.	Name (Digital Operator Display)	Setting or Selection	Parameter No.	Name (Digital Operator Display)	Remarks on Setting or Selection
L8-17	IGBT Protection Selection at Low Frequency	0: Conventional 1: Lower fc Carrier frequency is decreased when fout 10Hz and the load is > 100% iac. 2: Short term OL2 OL occurs after 2 seconds during low speed [fout 6Hz] current limit. 3: I-Limit=150% Current limit is set to 150% of the inverter rated current.			Deleted in F7
L8-19	OL2 Characteristic Selection at Low Speed	0: Disabled-Low frequency OL disabled 1: Enabled-Low frequency OL enabled	L8-15	OL2 Characteristic Selection at Low Speeds	Changed parameter number 0: Disabled 1: Enabled
---	---	---	L8-18	Soft CLA Selection	New parameter 0: Disabled 1: Enabled.
---	---	---	n3-01	High Slip Braking Deceleration Frequency Width	New parameter
---	---	---	n3-02	High Slip Braking Current Limit	New parameter
---	---	---	n3-03	High Slip Braking Dwell Time at Stop	New parameter
---	---	---	n3-04	High Slip Braking Overload Time	New parameter
---	---	---	n5-01	Feed Forward Control Selection	New parameter 0:Disabled 1:Enabled
---	---	---	n5-02	Motor Accel Time	New parameter
---	---	---	n5-03	Feed Forward Proportional Gain	New parameter
O1-01	Monitor Selection User Monitor Sel	Monitor selection 4: Control method 5: Motor speed 6: Output voltage 7: DC bus voltage 8: Output power 9: Torque reference internal 10: Input terminal status 11: Output terminal status 12: Internal Control Status 1 13: Elapsed time 14: Flash software ID number 15: External terminal 13 input voltage 16: External terminal 14 input voltage 17: External terminal 16 input voltage 18: Motor secondary current Iq 19: Motor excitation current Id 20: Primary frequency after SFS 21: Speed controller ASR input 22: Speed controller ASR output 23: Speed deviation 24: PID feedback 25: DI-16 reference 26: Voltage reference Vq output 27: Voltage reference Vd output 28: CPU ID number 32: ACR output of q axis 33: ACR output of d axis 34: First Parameter Causing an OPE 35: Zero Servo Pulse Count 36: PID Input 37: PID Output 38: PID Setpoint			Modified name: 15:Terminal A1 Input Voltage 16:Terminal A2 Input Voltage 17:Terminal A3 Input Voltage Deleted in F7 23: Speed deviation Added selections: 29: kWh Lo 4 Digits 30: MWh kWh Hi 5 Digits 39: Memobus Communication Error Code Transmit Err 40:Heatsink Cooling Fan Operation Time 41: Heatsink Temperature 44: ASR output without filter 45: Feed forward control output

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Appendix 2- Parameter Differences

GPD515/G5 Parameters			F7 Parameters		
Parameter No.	Name (Digital Operator Display)	Setting or Selection	Parameter No.	Name (Digital Operator Display)	Remarks on Setting or Selection
01-01	Monitor Selection User Monitor Sel	Monitor selection 4: Control method 5: Motor speed 6: Output voltage 7: DC bus voltage 8: Output power 9: Torque reference internal 10: Input terminal status 11: Output terminal status 12: Internal Control Status 1 13: Elapsed time 14: Flash software ID number 15: External terminal 13 input voltage 16: External terminal 14 input voltage 17: External terminal 16 input voltage 18: Motor secondary current Iq 19: Motor excitation current Id 20: Primary frequency after SFS 21: Speed controller ASR input 22: Speed controller ASR output 23: Speed deviation 24: PID feedback 25: DI-16 reference 26: Voltage reference Vq output 27: Voltage reference Vd output 28: CPU ID number 32: ACR output of q axis 33: ACR output of d axis 34: First Parameter Causing an OPE 35: Zero Servo Pulse Count 36: PID Input 37: PID Output 38: PID Setpoint			Modified name: 15:Terminal A1 Input Voltage 16:Terminal A2 InputVoltage 17:Terminal A3 Input Voltage Deleted in F7 23: Speed deviation Added selections: 29: kWh Lo 4 Digits 30: MWh kWh Hi 5 Digits 39: Memobus Communication Error Code Transmit Err 40:Heatsink Cooling Fan Operation Time 41: Heatsink Temperature 44: ASR output without filter 45: Feed forward control output
01-05	Parameter No. Display Selection Address Display	0:Parameter Number 1:Memobus Address	01-05	LCD Brightness Adjustment	Modified function: Sets the contrast of the digital operator LCD. A setting of "1" is the lightest contrast and a setting of "5" is the darkest contrast.
—	—	—	02-10	Cumulative CoolingFan Operation Time Setting	New parameter
—	—	—	02-12	Fault Trace/Fault History Clear Function	New parameter 0: Disabled no effect. 1: Enabled - resets U2 and U3 monitors, and returns 02-12 to zero.

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GPD515/G5 Parameters			F7 Parameters		
Parameter No.	Name (Digital Operator Display)	Setting or Selection	Parameter No.	Name (Digital Operator Display)	Remarks on Setting or Selection
—	—	—	o2-14	kWh User Monitor Initialization	New parameter 0: Disabled no change. 1: Enabled - Resets U1-29 to zero and returns o2-14 to zero.
—	—	—	o3-01	Copy Function Selection	New parameter 0: COPY SELECT no function 1: INV -> OP READ - All parameters are copied from the Drive to the digital operator. 2: OP -> INV WRITE - All parameters are copied from the digital operator to the Drive. 3: OP<->INV VERIFY - Parameter settings in the Drive are compared to those in the digital operator. NOTE: When using the copy function, the Drive model number o2-04, software number U1-14, and control method A1-02 must match or an error will occur.
—	—	—	o3-02	Copy Allowed Selection Read Allowable	New parameter 0: Disabled - No digital operator copy functions are allowed. 1: Enabled - Copying allowed

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Data Subject to change without notice.



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