

1000 Hz Output Frequency

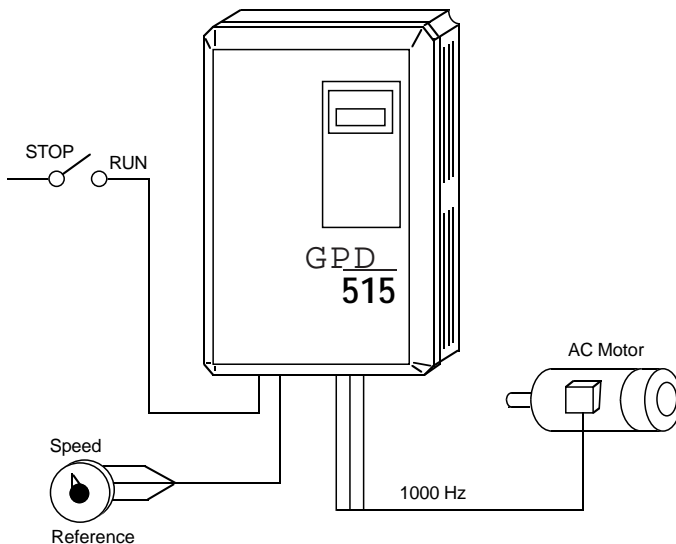
FLASH Memory Software Option

Part Number: GPD515C-XXXX-CS004 ⁽¹⁾

With this factory-installed FLASH software, the GPD 515 has the ability to provide an output frequency of up to 1000 Hz (depending on Drive rating) for applications which require high speed operation.

Specifications:

- Maximum Output Frequency:
 - 1000 Hz: 1 to 40 Hp
 - 800 Hz: 50 to 200 HP
 - 400 Hz: 250 to 400 HP
- Control Mode: **V/f only**
- Serial Communications: Modbus RTU (RS-232)



This document is an addendum to Technical Manual TM 4515, listing the effect of this software on the parameters in the drive and function descriptions in the manual.

⁽¹⁾ XXXX refers to the base Model Number of the drive in which the software is installed.

Added Parameters:

This software does not add any new parameters to the drive.

Changed Parameters:

Refer to Appendix 1 of the GPD 515 Technical Manual, TM 4515. The following changes result from the installation of this software in the drive.

Parameter	Function Name	Changed	Standard Software	1000 Hz Software
A1-02	Control Method Selection	Max. Value	3	0
		Factory Setting	2	0
b3-03	Speed Search Deceleration Time	Min. Value	0.0	1.0
b6-01	Dwell Frequency at Start	Max. Value	400.0	1000.0
b6-03	Dwell Frequency at Stop	Max. Value	400.0	1000.0
b8-02	Energy Saving Frequency	Max. Value	400.0	1000.0
C6-01	Carrier Frequency Upper Limit	Max. Value	15.0 ⁽¹⁾	10.0 ⁽¹⁾
C6-02	Carrier Frequency Lower Limit	Max. Value	15.0 ⁽¹⁾	10.0 ⁽¹⁾
d1-01 thru d1-08	Frequency References	Max. Value	400.0	1000.0
		Increment	0.01	0.1
d1-09	Jog Frequency Reference	Max. Value	400.0	1000.0
		Increment	0.01	0.1
		Factory Setting	6.00	60.0
d2-02	Reference Lower Limit	Max. Value	100.0	109.0
d3-01 thru d3-03	Critical Frequency Rejection	Max. Value	400.0	1000.0
E1-04	Max Frequency	Max. Value	400.0	1000.0
E1-06	Base Frequency	Max. Value	400.0	1000.0
E1-07	Mid Frequency A	Max. Value	400.0	1000.0
E1-09	Min Frequency	Max. Value	400.0	1000.0
E1-11	Mid Frequency B	Max. Value	400.0	1000.0
H1-01 thru H1-06	Multi-Function Input Terminal Selection	Max. Value	77	66
L2-04	Power Loss V/F Ramp Time	Max. Value	2.0	5.0
L4-01	Speed Coincidence Level	Max. Value	400.0	1000.0
L4-03	Speed Coincidence Level+-	Max. Value	400.0	1000
		Min. Value	-400.0	-1000
		Increment	0.1	1

⁽¹⁾ Setting will differ depending on drive capacity

Deleted Parameters:

The following parameters are no longer present, and their function descriptions in Section 5 of the Technical Manual are not applicable:

b1-05	Zero-Speed Operation
b7-01 & b7-02	Droop Control Setup
b9-01 & b9-02	Zero Servo Setup
C3-05	Slip Compensation V/f
C5-01 thru C5-07	Automatic Speed Regulator
C8-08	AFR Gain
C8-30	Carrier in tune
d5-01 thru d5-06	Torque Control Parameters
E2-04, E2-06 thru E2-09	Open Loop Vector Parameters
F1-01 thru F1-14	Pulse Generator / Encoder Setup Parameters
L7-01 thru L7-04	Torque Limits
o1-03	Display Scaling
o1-04	Display Units

Startup Procedure:

1. Set the Parameter Access Level to "Advanced" (Section 2.2C) ⁽²⁾.
2. Set the V/f pattern. This pattern can be a standard (preset) V/f pattern or a custom V/f pattern. Preset V/f patterns can be found in Table 5-4 (Section 5.48) ⁽²⁾. A preset V/f pattern is selected by the setting of **E1-03**. When one of these preset V/f patterns is employed, parameter **E1-01** (Input Voltage Setting) needs to be set at the motor's nameplate value. If a custom V/f pattern is desired, set **E1-03** = F (User Defined V/f) and use Figure 1 and parameters **E1-04** thru **E1-13** to set it up (Section 5.48) ⁽²⁾.

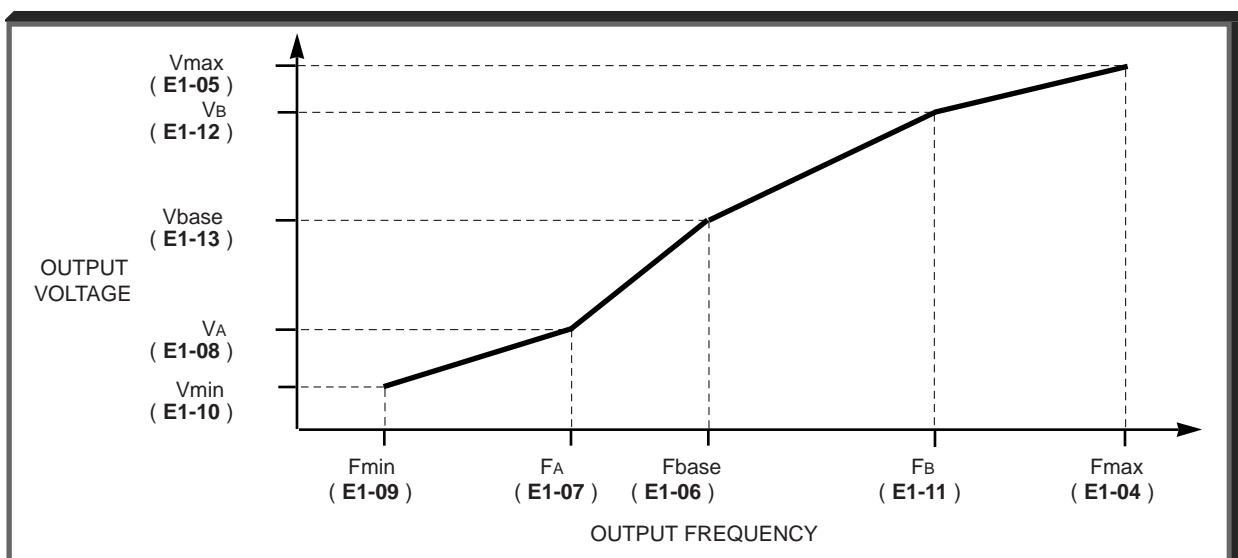


Figure 1. V/f Characteristics Set by E1-04 thru E1-13

3. Set the motor's full load current into parameter **E2-01** (Motor Rated Current).
4. Set the JOG frequency (**d1-09**) to a safe, slow speed (Section 2.2C) ⁽²⁾.
5. Check the motor rotation using the JOG function (Section 2.2C) ⁽²⁾.
6. Further operational tests can be performed by following Section 2.5 ⁽²⁾.






⁽²⁾ Refer to GPD 515 Technical Manual TM 4515.

Verifying Installed Software Number:

For the 1000 Hz software option, the software number is 9990, 5112, or 5114. The software version installed in the drive can be verified by either reading it off of the control board, the FLASH label, or calling it up on the Digital Operator.

In order to read the software number off of the control board, take the cover off of the drive and look for the white sticker on the main control board. This sticker is just to the right of connector 2CN. On it is the version of the control board, then a dash, then the software number (see Figure 2). The "S" before the number can be disregarded.

In order to view the software number from the Digital Operator, bring up drive parameter **U1-14** (FLASH ID). This is done by powering up the drive and using the following key sequence:

Press  , then  ,
 then  , then  ,
 then  13 times.

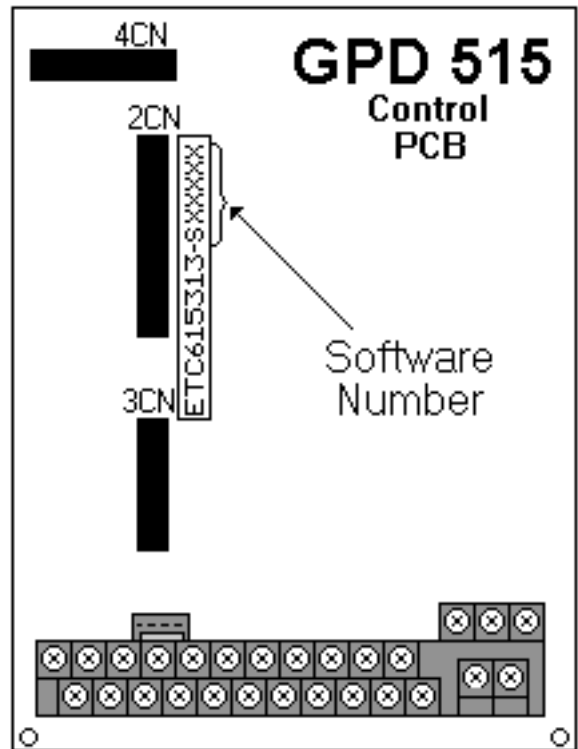


Figure 2. Software Number Location on Control Board

NOTICE TO USER:

Be sure to keep this document with your GPD 515 Technical Manual.