

HVG+ Parameter Listing

Bay : AS FIXED
Philip 2/5/12 C15

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B1-06	Reference 6	0.0	5-3
B1-07	Reference 7	0.0	5-3
B1-08	Reference 8	0.0	5-3
B1-09	Jog Reference	6	5-3
B1-10	Ref Priority	0	5-3
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B2-03	Upper Limit Gain	100	5-5
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B3-05	Zero-Speed Operation	0	5-9
B3-06	Control Input Scans	1	5-13
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B5-03	Acceleration Time 2	1.0	5-15
B5-04	Deceleration Time 2	1.0	5-15
B5-05	Acceleration Time N Change	1.0	5-16
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B5-09	Accel/Decel Units	1	5-16
B5-10	Accel/Decel Switch Freq	120.0	5-16
B5-11	Switch Freq Compare	1	5-16
B5-12	Forward Torque Limit Accel	0	5-18
B5-13	Forward Torque Limit Decel	0	5-18

2 Advanced
3 Flux Vector
2 NLB Hoist
0 5-SPD Multi-Step
0 No Init.
0 unlock

6 Hz
15
30
45
60

0
0
0
6 Hz
0 Digital Only
100%
2
100

1 Terminals
1 "
6 No Load Brake
0 Ramp at Freq Refr
1 5ms - 2 scans
0 Cycle Freq Refr
10%

3.5 sec
3
1.0

1
1
1
0.3
0.5
0.1
120 Hz
upper Sw Freq
0 sec
0

No.	Parameter Name	Factory Default	Ref Page#
B5-14	Reverse Torque Limit Accel	0.5	5-18
B5-15	Reverse Torque Limit Decel	0	5-18
B6-01	Phase Loss Input Select	0	5-19
B6-02	Phase Loss Input Level	7.5	5-19
B6-03	Phase Loss Output Select	1	5-19
B6-04	Phase Loss Output Level	5.0	5-19
B7-01	SVR Delay Timer	70	5-19
B8-01	Jump Frequency 1	0	5-20
B8-02	Jump Frequency 2	0	5-20
B8-03	Jump Frequency 3	0	5-20
B8-04	Jump Bandwidth	1.0	5-20
C1-01	Quick Stop <u>Enable/Disable</u>	0	5-22
C1-02	Quick Stop Time	1	5-22
C1-03	Reverse Plug <u>Enable/Disable</u>	0	5-23
C1-04	Reverse Plug Decel Time	1.0	5-23
C1-05	Reverse Plug Accel Time	1.0	5-23
C2-01	Micro Speed Gain 1	1.00	5-24
C2-02	Micro Speed Gain 2	1.00	5-24
C3-01	Upper Limit 1 Speed	6	5-25
C3-02	Upper Limit 1 Decel Time	1.0	5-25
C3-03	Upper Limit 2 Decel Time	0.5	5-25
C3-04	Lower Limit 1 Speed	6	5-25
C3-05	Lower Limit 1 Decel Time	1.0	5-25
C3-06	Lower Limit 2 Decel Time	1.0	5-25
C3-07	Action @ LL2/UL2	0	5-25
C4-01	Zero Servo Timer	10	5-27
C4-02	Zero Servo Gain	25 <u>50</u>	5-27
C4-03	Zero Servo Count	10	5-27
C5-01	Load Check <u>Enable/Disable</u>	0	5-28
C5-02	Load Check Alarm Action	1	5-28
C5-03	Min Torque Reference	60%	5-28
C5-04	Look Speed 1	6	5-28
C5-06	Vector Torque Reference	125	5-28
C5-07	Look Speed 2	20	5-28
C5-09	Look Speed 3	60	5-28
C5-11	Current Ref for > Look Speed 3	160	5-28
C5-12	Load Check Setting Time	0.20	5-28
C5-13	Load Check Test Time	0.10	5-28
C5-14	Load Check Fault Speed	6	5-28
C6-01	Ultra Lift <u>Enable/Disable</u>	0	5-30
C6-02	Ultra Lift Forward Speed	60	5-30
C6-03	Ultra Lift Reverse Speed	60	5-30
C6-04	Ultra Lift Forward Torque	50	5-30

5 sec
 0
 0 Disabled
 7.5%
 1 Enabled
 5%
 70
 0 Hz
 0
 0
 1
 1 Enabled
 1.5 sec
 0 Disabled
 1 sec
 1
 1
 6 Hz
 1 sec
 1 sec
 6 Hz
 1 sec
 1 sec
 0 Decel to Stop
 10 sec
 50
 10
 0 Disabled
 1 Decel to Stop
 60%
 6 Hz
 160%
 20 Hz
 60 Hz
 160%
 .2 sec
 .1 sec
 6 Hz
 0 Disabled
 60 Hz
 60
 50%

No.	Parameter Name	Factory Default	Ref Page#
C6-05	Ultra Lift Reverse Torque	30	5-30
C6-06	Ultra Lift Enabling Speed	60	5-30
C6-07	Ultra Lift Delay Time	2.0	5-30
C6-08	SFS Acceleration Gain	1.0	5-30
C7-01	Forward Torque Limit	150	5-32
C7-02	Reverse Torque Limit	150	5-32
C7-03	Forward Regen Torque Limit	180	5-32
C7-04	Reverse Regen Torque Limit	180	5-32
C7-07	Torque Limit Gain by MFI	1.25	5-32
C8-01	Torque Compensation Time	1.50/2.50	5-34
C8-02	Current Feedback OK Timer	1.50/2.50	5-34
C8-03	Minimum Brake Release Torque	10	5-34
C8-04	Roll Back/BE4 Timer	0.70	5-34
C8-05	Roll Back Count	400	5-34
C8-06	BE3/Alternate Rev Torque Time	0.50	5-34
C8-07	BE3 Detect Count	50	5-34
C8-08	Alternate Reverse Torque Limit	10	5-34
C8-09	Zero Speed Level	2	5-34
C8-10	Load Float Time	10	5-35
C8-11	Brake Delay Time/BE5 Timer	0.7	5-35
C8-12	BE6 Detect Time	2.0	5-35
C8-13	BE6 Maximum Count	50	5-35
C8-14	Brake Hold Speed	6.1%	5-35
C8-15	Load Float Extension Time by MFI	10	5-35
C8-16	Initial Brake Release Torque	100	5-35
C8-17	BE6 Up Speed Limit	6.00	5-35
C8-18	LD Float Ace Brk Slip Det PG Moni	-1	5-35
C8-19	Ace Brk Slip Spf PG Moni Count	1	5-35
C9-01	G5IN4 Enable/Disable	0	5-43
C9-02	G5IN4 Setup	0	5-43
C10-01	Load Weight Enable/Disable	0	5-47
C10-02	Torque Output Primary Delay	200	5-47
C10-03	Load Weight Display Hold	0	5-47
C10-04	Load Weight Conversion	0	5-47
C10-05	Full Load Torque Output	100.0	5-47
C10-06	No Load Torque Output	0	5-47
C10-07	Line 2 Display	0	5-47
C11-01	Slack Cable Enable/Disable	0	5-50
C11-02	Action at Slack Cable	2	5-50
C11-03	Slack Cable Detection Torque	30	5-51
C11-04	Slack Cable Detect Speed 1	2	5-51
C11-05	Slack Cable Delay Time 1	0.50	5-51
C11-06	Slack Cable Detect Speed 2	60	5-51

30%
 60 Hz
 2 sec
 1.0
 150%
 150
 180
 180
 1.25
 .5 sec (to avoid BE2 fault)
 .5
 10%
 .7 sec
 400
 .5 sec
 30
 10%
 1 Hz
 10 sec
 .6 sec
 1 sec
 250
 10 sec
 100%
 6 Hz
 0 Disabled
 20 PPR
 0 Disabled
 0 Disabled
 200 ms
 0 Hold Torque
 0
 100%
 0
 tons
 0 Disabled
 2 Decel/c3-04
 30%
 2 Hz
 .5 sec
 60 Hz

C13-01
C13-02

Input Run Time
Repeat Delay Time

1.0 sec
1.0 sec

No.	Parameter Name	Factory Default	Ref Page#
C11-07	Slack Cable Delay Time 2	0.10	5-51
C12-01	Brake Jog Delay	0.0	5-52
C12-02	Brake Run Delay	0.0	5-52
C13-03	Inch 2 Run Ref	0.10	5-54
C13-04	Inch 2 Count	100	5-54
C13-05	Inch 2 Rpt Delay	0.00	5-54
C13-06	12 err cor 0/1	100	5-54
C15-01	Grease Interval	0 hrs	5-55
C15-02	Greaser Speed Gain	0.00/1.00	5-55
C15-03	Phantom Action	1/6	5-56
C15-04	Emergency Lift	0	5-57
C15-05	E-Lift Max Speed	0.00/ 30.00	5-57
C15-06	Brake Release Torque Up	50/300	5-57
C15-07	Brake Release Torque Down	20/300	5-58
C15-08	Emergency Lift DC Inject. @ Start	0.20	5-58
C15-09	E-Lift Reference Lower Limit	6.0 Hz	5-58
C15-10	E-Lift Forward Torque Limit	250	5-58
C15-11	E-Lift Reverse Torque Limit	150	5-58
C15-12	E-Lift Torque Comp Time	0.20	5-58
D1-01	DC Injection Start Frequency	2	5-59
D1-03	DC Injection Time @ Start	0.00	5-59
D1-04	DC Injection Time @ Stop	0.05	5-59
D1-05	DC Injection P Gain	0.05	5-59
D1-06	DC Injection Integral Time	100	5-59
D1-07	DC Injection	15.0	5-59
D2-01	Slip Compensation Gain	1	5-61
D4-01	ASR P Gain 1	30	5-61
D4-02	ASR I Time 1	0.500	5-61
D4-03	ASR P Gain 2	20	5-62
D4-04	ASR I Time 2	0.500	5-62
D4-06	ASR Delay Time	0.004	5-62
D4-07	ASR Gain Switch Frequency	0.0	5-62
D4-08	ASR I Limit	400	5-62
D5-01	Torque Control Select	0	5-62
D5-02	Torque Reference Filter	0	5-62
D5-03	Speed Limit Select	1	5-63
D5-04	Speed Limit Value	0	5-63
D5-05	Speed Limit Bias	10	5-63
D5-06	Reference Hold Time	0	5-63
D6-01	Droop Quantity	0	5-65
D6-02	Droop Delay Time	0.05	5-65
D8-01	Dwell Reference @ Start	0	5-66

1 sec

0

0

?

1.5 Hz

0 sec

0.05

0.05

100 ms

15 %

1

30

.5 sec

30

.1 sec

.004 sec

0

400 %

0

0.05 sec

0 Hz

No.	Parameter Name	Factory Default	Ref Page#
D8-02	Dwell Time @ Start	0	5-66
D8-03	Dwell Reference @ Stop	0	5-66
D8-04	Dwell Time @ Stop	0	5-66
D9-01	S-Curve Accel @ Start	1.50	5-67
D9-02	S-Curve Accel @ End	1.50	5-67
D9-03	S-Curve Decel @ Start	1.50	5-67
D9-04	S-Curve Decel @ Stop	0	5-67
D10-01	Carrier Frequency Max	3	5-69
D12-30	Carrier in Tune	0	5-70
E1-01	Input Voltage	230/460	5-71
E1-02	Motor Selection	1	5-72
E1-03	V/F Selection	F	5-72
E1-04	Max Frequency	60.0	5-72
E1-05	Max Voltage	230/460	5-72
E1-06	Base Frequency	60	5-72
E1-09	Min Frequency	0.0	5-72
E1-11	Mid Frequency B	0.0	5-72
E1-12	Mid Voltage B	0.0	5-72
E1-13	Base Voltage	0.0	5-72
E2-01	Motor Rated Full Load Amps	---	5-73
E2-02	Motor Rated Slip	---	5-73
E2-03	No load current	---	5-73
E2-04	Number of Poles	---	5-73
E2-05	Terminal Resistance	---	5-73
E2-06	Leakage Inductance	---	5-73
E2-07	Saturation Compensation 1	---	5-73
E2-08	Saturation Compensation 2	---	5-73
E2-09	Mechanical Loss	---	5-73
E3-01	Motor 2 Control Method	2	5-74
E3-02	Motion 2	1	5-74
E4-01	V/F 2 Max Frequency	60	5-74
E4-02	V/F 2 Max Voltage	230/460	5-74
E4-03	V/F 2 Base Frequency	60	5-74
E4-04	V/F 2 Mid Frequency	3.0	5-74
E4-05	V/F 2 Mid Voltage	12.6	5-74
E4-06	V/F 2 Min Frequency	0.5	5-74
E4-07	V/F 2 Min Voltage	2.3	5-74
E5-01	Motor 2 Rated Full Load Amps	---	5-75
E5-02	Motor 2 Rated Slip	---	5-75
E5-03	Motor 2 No Load Current	---	5-75
E5-05	Motor 2 Terminal Resistance	---	5-75
E5-06	Motor 2 Leakage Inductance	---	5-75
F1-01	PG Pulses/Revolution	1024	5-76

0

0

0

0 sec

0

0

0

2.0 Hz

0, $F_c = 2\text{KHz}$

460VAC

1 Std. Blower Control

F

60 Hz

460 VAC

60 Hz

0

0

0

0

59 Amps (as per nameplate)

0.67 Hz

"

19 A

4

277 Ω

20.7%

.49

.73

0

2 Open Loop Vector

1 Std. H.ist

60 Hz

460

60

3

23.5 VAC

.5

4.6 VAC

52.3 A

1.8 Hz

10.9 A

.269 Ω

20.7 %

1024 PPR

F1-16
17
18

Pulse PPR
Pulse Enable Speed
MFI Fault Buffer

1 PPR
10 HZ
3

No.	Parameter Name	Factory Default	Ref Page#	
F1-02	PG Feedback Loss Select	1	5-76	1 Coord to Stop
F1-03	PG OverSpeed Select	1	5-76	1 "
F1-04	Action @ PG Deviation Select	1	5-76	1 "
F1-05	PG Rotation Select	0	5-76	0 Fwd = CCW
F1-06	PG Output Ratio	1	5-76	1
F1-07	PG Ramp PI/I Select	0	5-77	0 Disabled
F1-08	PG OverSpeed Level	115	5-77	115%
F1-09	PG OverSpeed Time	0.0	5-77	0
F1-10	PG Deviate Level	10	5-77	15%
F1-11	PG Deviate Time	0.5	5-77	.5 sec
F1-12	SFS Deviate	120.0	5-77	120 Hz
F1-13	PG # Gear Teeth 1	0	5-77	0
F1-14	PG # Gear Teeth 2	0	5-77	0
F1-15	PGO Detect Time	2.0	5-77	.5 sec
F2-01	AI-14 Input Select	0	5-77	0 3ch Indiv
F3-01	Digital Input Setup	0	5-78	0 1%
F4-01	Analog Out Channel 1 Select	2	5-79	2 Output Freq
F4-02	Analog Out Channel 1 Gain	1.00	5-79	1
F4-03	Analog Out Channel 2 Select	3	5-79	3 Output Current
F4-04	Analog Out Channel 2 Gain	0.50	5-79	.5
F5-01	Digital Out Channel 1 Select	0	5-80	0 Brake Output
F5-02	Digital Out Channel 2 Select	1	5-80	1 Zero Speed
F6-01	DO-08 Select	0	5-81	0 8ch Indiv
F7-01	PO-36F Select	1	5-82	1 6.X Output Freq
H1-01	Terminal 3 Select	0	5-83	0 Multi Step Ref 2
H1-02	Terminal 4 Select	1	5-83	1 Multi step ref 4 * 2
H1-03	Terminal 5 Select	7	5-83	2 Multi step ref 4 * 2
H1-04	Terminal 6 Select	9	5-83	3 " 5
H1-05	Terminal 7 Select (ext. fault 24)		5-83	F not used
H1-06	Terminal 8 Select (M Speed Gain 1 E)		5-83	F not used
H2-01	Terminal 9 Select	0	5-86	0 Brake Output
H2-02	Terminal 25 Select (G5OUT1)	0	5-86	0 Brake Output
H2-03	Terminal 26 Select (G5OUT2)	7F	5-86	7F Fault Annun.
H3-01	Terminal 13 Signal	0	5-92	0 0-10 VDC
H3-02	Terminal 13 Gain	100.0	5-92	100%
H3-03	Terminal 13 Bias	0	5-92	0
H3-04	Terminal 16 Signal	0	5-92	0
H3-05	Terminal 16 Select	0	5-92	0 Aux Ref
H3-06	Terminal 16 Gain	100.0	5-92	100
H3-07	Terminal 15 Bias	0.0	5-92	0
H3-08	Terminal 14 Signal	2	5-92	2 4-20 mA
H3-09	Terminal 14 Select	1F	5-93	1F not used
H3-10	Terminal 14 Gain	100.0	5-93	100

No.	Parameter Name	Factory Default	Ref Page#	
H3-11	Terminal 14 Bias	0.0	5-93	0
H3-12	Filter Average Time	0.00	5-93	0 sec
H4-01	Terminal 21 Select	2	5-94	2 Output Freq
H4-02	Terminal 21 Gain	1.00	5-94	1
H4-03	Terminal 21 Bias	0.0	5-94	0
H4-04	Terminal 23 Select	3	5-94	3 Output Current
H4-05	Terminal 23 Gain	1.00	5-94	1
H4-06	Terminal 23 Bias	0.0	5-94	0
H4-07	Analog Out Level Select	0	5-94	0 0-10 VDC
H5-01	Serial Comm Address	1F	5-95	1F
H5-02	Serial Baud Rate	3	5-95	3 9600 Baud
H5-03	Serial Communication Parity	0	5-95	0 No
H5-04	Action @ Serial Fault Select	1	5-95	1 Coast to Stop
H5-05	Serial Fault Enable/Disable	1	5-95	1 Enabled
L1-01	Motor Overload Fault Select	1	5-96	1 Coast to Stop
L1-02	Motor Overload Time Constant	1.0	5-96	1 min
L3-04	Stall Prevention Decel Select	0	5-97	0 Disabled
L4-01	Speed Agree Level	0.0	5-99	0
L4-02	Speed Agree Width	2.0	5-99	2 Hz
L4-03	Speed Agree Level +/-	0.0	5-99	0
L4-04	Speed Agree Width +/-	2.0	5-100	2 Hz
L4-05	Reference Loss Select	0	5-100	0 Stop
L6-01	Torque Detection 1 Select	0	5-101	0 Disabled
L6-02	Torque Detection 1 Level	150	5-102	150%
L6-03	Torque Detection 1 Time	0.1	5-102	.1 sec
L6-04	Torque Detection 2 Select	0	5-103	0 Disabled
L6-05	Torque Detection 2 Level	150	5-103	150%
L6-06	Torque Detection 2 Time	0.1	5-103	.1 sec
L8-02	Over Heat Pre-Alarm Level	95	5-104	95°C
L8-03	Over Heat Pre-Alarm Select	3	5-104	3 Alarm Only
L8-10	Ground Fault Enable/Disable	1	5-104	1 Enabled
L8-14	UV3 Enable/Disable	0	5-104	0 Disabled
L9-01	Auto Reset Enable/Disable	1	5-105	1 Enabled
L9-02	Reset Attempts	3	5-105	3
L9-03	Reset Time	0.5	5-105	.5 sec
L9-04	Reset Fault Select 1	00001	5-105	1
L9-05	Reset Fault Select 2	00080	5-105	80
* O1-01	User Monitor Select	6	5-107	6 Output Voltage
O1-02	Power On Monitor	2	5-108	2 Output Freq.
O1-03	Display Scaling	0	5-108	0
O1-04	Display Units	0	5-109	0 Hz
O1-05	Address Display	0	5-109	0 Param. #
O2-01	Mode/Service Key	0	5-109	0 M/S

No.	Parameter Name	Factory Default	Ref Page#
O2-02	Operator Stop Key	0	5-109
O2-03	User Defaults	0	5-110
O2-04	KVA Selection	00-FF	5-110
O2-05	Up/Down Frequency Reference	0	5-111
O2-06	Operator Detection	1	5-111
O2-07	Elapsed Time Set	0	5-111
O2-08	Elapsed Time Run (Power-On Time 0)	0	5-111
O2-10	Run @ Power Up	0	5-112
O3-01	Clear History 1	0	5-113
O3-02	Clear History 2	0	5-113
U1-01	Frequency Reference	—	5-114
U1-02	Output Frequency	—	5-114
U1-03	Output Current	—	5-114
U1-04	Control Method	—	5-114
U1-05	Motor Speed	—	5-114
U1-06	Output Voltage	—	5-114
U1-07	DC Bus Voltage	—	5-114
U1-08	Output kWatts	—	5-114
U1-09	Torque Reference	—	5-114
U1-10	Input Terminal Status	—	5-114
U1-11	Output Terminal Status	—	5-114
U1-12	Inverter Control Status 1	—	5-114
U1-13	Elapsed Time	—	5-114
U1-14	Flash ROM Software ID Number	—	5-114
U1-15	Terminal 13 Level	—	5-114
U1-16	Terminal 14 Level	—	5-114
U1-17	Terminal 16 Level	—	5-114
U1-18	Motor Secondary Current	—	5-114
U1-19	Motor Excitation Current	—	5-114
U1-20	SFS Output	—	5-114
U1-21	ASR Input	—	5-114
U1-22	ASR Output	—	5-114
U1-23	Speed Deviation	—	5-114
U1-24	PID Feedback	—	5-114
U1-25	G5IN4 Monitor	—	5-114
U1-26	Voltage Reference (Vq)	—	5-114
U1-27	Voltage Reference (Vd)	—	5-114
U1-28	CPU ID	—	5-114
U1-29	Load Weight	—	5-115
U1-32	ACR (q) Output	—	5-115
U1-33	ACR (d) Output	—	5-115
U1-34	OPE Detected	—	5-115
U1-35	Friction Torque	—	5-115

U1-54

U3-09 Rollovers

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No.	Parameter Name	Factory Default	Ref Page#
U1-42	Inch 2 Count	—	5-115
U1-43	Grease Time Left	1000 H	5-115
U1-55	Software Revision		5-115
U2-01	Current Fault	—	5-115
U2-02	Last Fault	—	5-115
U2-03	Frequency Reference	—	5-115
U2-04	Output Frequency	—	5-115
U2-05	Output Current	—	5-115
U2-07	Output Voltage	—	5-115
U2-08	DC Bus Voltage	—	5-115
U2-09	Output kWatts	—	5-115
U2-11	Input Terminal Status	—	5-115
U2-12	Output Terminal Status	—	5-115
U2-13	Inverter Status	—	5-115
U2-14	Elapsed Time	—	5-115
U3-01	Last Fault	—	5-115
U3-02	Fault Message 2	—	5-115
U3-03	Fault Message 3	—	5-115
U3-04	Fault Message 4	—	5-115
U3-05	Elapsed Time 1	—	5-116
U3-06	Elapsed Time 2	—	5-116
U3-07	Elapsed Time 3	—	5-116
U3-08	Elapsed Time 4	—	5-116
U3-09	AC Operations	—	5-116
U3-10	OL/LC Count	—	5-116

U2-06

U2-10

Motor Speed
Torque Ref.

1.7

none

Speed Dev

60 Hz

0.78 Hz

85.6 A

38.3 VAC

625 VDC

0

01001101

Down, 3rd Speed

00000000

01000011

minor fault, 0 speed, none

7484 H

Speed Dev.

"

"

"

7484 H

7484 H

7482 H

7482 H

7529

0

0 Hz

149.7 %