Programming the Drum Vacuum Drive (DVD) inverter

Applies to

Thermoflex Wide

Background

WARNING! - This procedure is intended for qualified Creo personnel only. High voltages are present in the service area. Extreme caution must be used!

The drum vacuum drive inverter must be programmed to enable operation of the drum vacuum system. This procedure applies to

- integration of the drum vacuum drive
- field replacement of a drum vacuum drive inverter

Tools and parts

- M4 Allen Key
- Crescent Wrench

Steps

1. Ensure that drum vacuum system is fully setup and ready to have power applied. Refer to document 77-0094A-A-PR01.doc.
2. Remove drum vacuum drive cover. Refer to document 77-0093A-A-PR01.doc steps 1 thru 3.
3. Enable DVD power using a crescent wrench to turn the main disconnect switch handle.
4. Manually set the parameters listed in table 1 below, using the following steps.
5. Press the DSPL key repeatedly until parameter nxxx appears.
6. Use the arrow keys to scroll to parameter n001. **Reset the drive by setting parameter n001 to "8" and pressing the enter key.** (It is important that the drive is reset to default parameters. This must be done to ensure that previous settings are not kept.) **After resetting the drive, return to parameter n001 change it to "Ready and Set" (3).** To set the parameters in table 1, press enter then adjust value with arrow keys. To save change press enter again.
7. To change the next parameter press DSPL, then scroll to next parameter with arrow keys and repeat the above procedure.

Notes

PARAMETER		SETTING (old pump) 15-1323 DVP : 50-1806A	SETTING (new pump) 378-00010 DVP : 500-02732A
n001*	Initialization	Read and Set	Read and Set
n002	Oper. mode select	Seq.=Term Ref.=Term	Seq.=Term Ref.=Term
n004	Stop Mode	Ramp To Stop	Ramp To Stop
n005	Rotation direction	Rotate Clockwise	Rotate Clockwise
n006	Reverse Prohibit	Reverse Prohibited	Reverse Prohibited
n007	Loc/Rem Key Func	Enabled	Enabled
n008	Stop Key Function	Enabled	Enabled
n009	Freq. Select Method	Enter not used	Enter not used
n010	V/F Pattern Select	User Defined V/f	User Defined V/f
n011	Max Frequency	100	100
n012	Max Voltage	**380**	**360**
n013	Frequency at max. voltage	**60**	**100**
n014	Mid. Frequency	**30**	**50**
n015	Mid. Voltage	**115**	**180**
n016	Min. Frequency	10	10
n017	Min. Voltage	**23**	**16.8**
n018	Acel. Time1	4	4
n019	Decel. Time1	**4**	**5**
n023	Display Mode	0	0
n024	Freq. Ref 1 (Normal)	60	60
n025	Freq. Ref 2	0	0
n026	Freq. Ref 3	0	0
n027	Freq. Ref 4	0	0
n028	Freq. Ref 5	0	0
n029	Freq. Ref 6	0	0
n031	Ref. Upper Limit	100	100
n032	Ref Lower Limit	0	0
n033	Motor Rated Current	**15**	**14.2**

n034	Overload Protection mode **Enables oL1 fault**	Std. Motor (8 mins.)	Std. Motor (8 mins.)
n035	Overload stop mode	Continuous Oper	Continuous Oper
n036	S2	Fault Reset	Fault Reset
n037	S3	Multi-step: speed 1	Multi-step: speed 1
n038	S4 **Enables thermal overload fault**	External Fault (NC)	External Fault (NC)
n039	S5	External Fault (NO)	External Fault (NO)
n040	S6	Multi-step: speed 2	Multi-step: speed 2
n041	MA contact closes during	Fault	Fault
n042	M1-M2 contact closes	During Running	During Running
n048	FV Gain	100	100
n049	FV Bias	0	0
n054	Carrier Frequency	10	10
n055	Momentary Power loss ride-through method	CPU Power Active	CPU Power Active
n060	Num auto restarts	0	0
n061	Fault contact selection	Activate Fault Relay	Activate Fault Relay
n071	Torque compensation gain	1	1
n072	Stall Prevention	Enabled	Enabled
n073	Stall Prevention limit during acceleration	170	170
n074	Stall Prevention limit during running	160	160
n077	Over torque protection **Enables oL3 fault**	OT/SpdAgree/Flt	OT/SpdAgree/Flt
n078	Overtorque detection level	160	160

*some units may read password instead of initialization. For these units enter set parameter to the number 3.

Important! Check parameters n034, n038, n077, n078 again. These correspond to thermal overload (current), thermal overload, and overtorque faults.

Do not change any of the default values - change only those listed above. The complete list of parameters can be found at the end of this document.

Technical Contact: Pat Devin

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Drum Vacuum Drive Inverter Settings(15-1323 and 378-00010)

PARAMETER		SETTING (old pump)	SETTING (378-00010)
Parameter	Default (factory) setting	Creo Setting (old pump)	Creo Setting (new pump)
n001*	1	8 to reset, 3 for password	8 to reset, 3 for password
n002	Seq.=Term Ref.=Term	Seq.=Term Ref.=Term	Seq.=Term Ref.=Term
n003	460.0 VAC	n/a	n/a
n004	Ramp To Stop	Ramp To Stop	Ramp To Stop
n005	Rotate Clockwise	Rotate Clockwise	Rotate Clockwise
n006	Reverse Allowed	Reverse Prohibited	Reverse Prohibited
n007	Enabled	Enabled	Enabled
n008	Enabled	Enabled	Enabled
n009	Enter Key Used	Enter not used	Enter not used
n010	User Defined V/f	User Defined V/f	User Defined V/f
n011	60 Hz	100 Hz	100 Hz
n012	460 VAC	**380 VAC**	**360 VAC**
n013	60 Hz	**60 Hz**	**100 Hz**
n014	30 Hz	**30 Hz**	**50 Hz**
n015	115 VAC	**115 VAC**	**180 VAC**
n016	1.5 Hz	10 Hz	10 Hz
n017	23 VAC	**23 VAC**	**16.8 VAC**
n018	10.0 Sec	4 Sec	4 Sec
n019	10.0 Sec	**4 Sec**	**5 Sec**
n020	10.0 Sec	n/a	n/a
n021	10.0 Sec	n/a	n/a
n022	0.2 Sec	n/a	n/a
n023	0	0	0
n024	Freq. Ref 1 (Normal)	60 Hz	60 Hz
n025	0 Hz	0 Hz	0 Hz
n026	0 Hz	0 Hz	0 Hz
n027	0 Hz	0 Hz	0 Hz
n028	0 Hz	0 Hz	0 Hz
n029	0 Hz	0 Hz	0 Hz
n030	0 Hz	0 Hz	0 Hz

n031	100 %	100 %	100 %
n032	0 %	0 %	0 %
n033	15 A	**15 A**	**14.2 A**
n034	Std. Motor (8 mins.)	Std. Motor (8 mins.)	Std. Motor (8 mins.)
n035	Continuous Oper	Continuous Oper	Continuous Oper
n036	Reverse Run (2W)	Fault Reset	Fault Reset
n037	External Fault (NO)	Multi-step: speed 1	Multi-step: speed 1
n038	Fault Reset	External Fault (NC)	External Fault (NC)
n039	Multi-step: speed 1	External Fault (NO)	External Fault (NO)
n040	Multi-step: speed 2	Multi-step: speed 2	Multi-step: speed 2
n041	Fault	Fault	Fault
n042	During Running	During Running	During Running
n043	FV=MSTR FI=AUX	n/a	n/a
n044	4-20 mA	n/a	n/a
n045	Memorize FREF	n/a	n/a
n046	Not Detected	n/a	n/a
n047	80 %	n/a	n/a
n048	100 %	100 %	100 %
n049	0 %	0 %	0 %
n050	100 %	n/a	n/a
n051	0%	n/a	n/a
n052	Output Freq	n/a	n/a
n053	1.00	n/a	n/a
n054	Carrier Frequency	10	10
n055	Not Provided	CPU Power Active	CPU Power Active
n056	110%	n/a	n/a
n057	0.7 Sec	n/a	n/a
n058	60 %	n/a	n/a
n059	2.0 Sec	n/a	n/a
n060	0	0	0
n061	Activate Fault Relay	Activate Fault Relay	Activate Fault Relay
n062	0.0 Hz	n/a	n/a
n063	0.0 Hz	n/a	n/a
n064	1.0 Hz	n/a	n/a

n065	Time Running Mtr	n/a	n/a
n066	20 Hours	n/a	n/a
n067	0	n/a	n/a
n068	DCInj Current	n/a	n/a
n069	0.0 Sec	n/a	n/a
n070	0.0 Sec	n/a	n/a
n071	1.0	1.0	1.0
n072	Enabled	Enabled	Enabled
n073	170 %	170 %	170 %
n074	160 %	160 %	160 %
n075	0.0 Hz	n/a	n/a
n076	2.0 Hz	n/a	n/a
n077	Disabled	OT/SpdAgree/Flt	OT/SpdAgree/Flt
n078	160 %	160 %	160 %
n079	0.1 Sec	n/a	n/a
n080	0.0 Sec	n/a	n/a
n081	0.0 Sec	n/a	n/a
n082	Disabled	n/a	n/a
n083	7%	n/a	n/a
n084	Disabled	n/a	n/a
n085	1.00	n/a	n/a
n086	1.0	n/a	n/a
n087	10.0 Sec	n/a	n/a
n088	0.00 Sec	n/a	n/a
n089	100 %	n/a	n/a
n090	Disabled	n/a	n/a
n091	0 %	n/a	n/a
n092	1.0 Sec	n/a	n/a
n093	Not Inverted	n/a	n/a
n094	0.0 Hz	n/a	n/a
n095	0.0 Hz	n/a	n/a
n096	Disabled	n/a	n/a
n097	145.4	n/a	n/a
n098	75 %	n/a	n/a

n099	12 %	n/a	n/a
n100	1	n/a	n/a
n101	Enabled	n/a	n/a
n102	Coast to Stop	n/a	n/a
n103	1 = 0.1 Hz	n/a	n/a
n104	1	n/a	n/a
n105	9600 Baud	n/a	n/a
n106	No Parity	n/a	n/a
n107	0.0 %	n/a	n/a
n108	30 %	n/a	n/a
n109	2.0 Sec	n/a	n/a
n110	Disabled	n/a	n/a
n111	Cycle Extern RUN	n/a	n/a
n112	6.0 Hz	n/a	n/a
n113	50 %	n/a	n/a
n114	0	n/a	n/a
n115	27	n/a	n/a
n116	VT Operation	n/a	n/a