



GE Energy

Functional Testing Specification

Parts & Repair Services
Louisville, KY

LOU-GED-DC300

Test Procedure for a DC300 Drive

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REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release to test a stand alone DC300 Drive	J Archibald	1/6/2009
B			
C			

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DATE 01/06/2008	DATE	DATE	DATE 1/13/2009

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1. SCOPE

1.1 This is a functional testing procedure for a DC300 Drive.

2. STANDARDS OF QUALITY

2.1 Refer to the current revision of the IPC-A-610 standard for workmanship standards.

3. APPLICABLE DOCUMENTS

3.1 The following document(s) shall form part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue shall apply.

3.1.1 **Not listed**

4. ENGINEERING REQUIREMENTS

4.1 Equipment Cleaning

4.1.1 Equipment should be clean and free of debris prior to applying power unless performing an initial check. Refer to the local documented procedures for cleaning guidelines.

4.2 Equipment Inspection

4.2.1 Equipment should be visually inspected for any defects prior to applying power. This inspection should include the following as a minimum:

4.2.1.1 Wires - broken, cracked, or loosely connected

4.2.1.2 Terminal strips / connectors - broken or cracked

4.2.1.3 Components - visually damaged

4.2.1.4 Capacitors - bloated or leaking

4.2.1.5 Solder joints - damaged or cold

4.2.1.6 Circuit board - burned or de-laminated

4.2.1.7 Printed wire runs / Traces - burned or damaged

5. EQUIPMENT REQUIRED

5.1 The following equipment is required to perform the process requirements. Equipment may be substituted provided that all accuracy's and test ratios are equivalent or better.

Qty	Reference #	Description
1		Fluke 87 DMM (or Equivalent)
1		Motor control panel

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6. TESTING PROCESS

6.1 Testing Procedure

- 6.1.1 Test card per procedures.
- 6.1.2 Install cards in drive
- 6.1.3 Install a jumper Between CNTL1 and CNTL2 on 531x170tbsagg1 Card.
- 6.1.4 Install a jumper between XSTOP, REF24 and MODE6 on 531x170tbsagg1 and 513x171tmaafg2 card.
- 6.1.5 Install a jumper in REF24 on 531x170tbsagg1
- 6.1.6 Turn p1 pot on Control card to full Counter Clockwise.
- 6.1.7 Install a 5 k pot between –15 MSR and +15 volt on 531x170tbsagg1 card.
- 6.1.8 Install test EEPROM in position U12 on Control card for correct HP (this can be found on name plate on drive door).
- 6.1.9 Set JP1 and 2 on power supply card for proper Field Current.
- 6.1.10 Check drive name plate for proper voltage then connect L1, L2, and L3 from motor control panel to F1, F2, and F3 on drive.
- 6.1.11 Connect armature 1 on motor control panel to Shunt on drive.
- 6.1.12 Connect armature 2 to fuse on drive.
- 6.1.13 Connect Field 1 to 2TB1 on drive.
- 6.1.14 Connect Field 2 to 2TB2 on drive.
- 6.1.15 Connect TACH red lead to 1TB1 on TACH card.
- 6.1.16 Connect TACH black lead to 1TB3 on TACH card.
- 6.1.17 Apply power to drive.
- 6.1.18 On programmer press SET DRIVE 77 enter, RESET. NEXT (programmer should read test) enter 12 then ENTER, (Drive should do a cell test.)
- 6.1.19 If Cell test passes press run and drive should start.
- 6.1.20 Press increment until drive reaches max speed then adjust P1 Tach speed as per the chart below for correct motor.
- 6.1.21 Press stop and motor should Regen.
- 6.1.22 Jumper REF24 to jog and motor should jog to the ref speed set in parameter 063.
- 6.1.23 Remove jumper from jog and jumper to run, adjust pot installed in step 6-9 slowly and motor should forward and reverse.

6.2 Use the following table for a G1 and G3 POWER SUPPLY.

G1 and G3 POWER SUPPLY					
Horsepower	JP1 & JP2 Settings	Tach Settings for SW1	RPM	Field Amps	Tach Voltage
50 HP	JP1 1-2	1,2,4,5 Closed	2100	4.62	105VDC
	JP2 1-2				
25 HP	JP1 1-2	6 Closed	1750	1.75	171VDC
	JP2 2-3				
15 HP	JP1 1-2	6 Closed	1750	1.85	171VDC
	JP2 1-3				
10HP	JP1 2-3	6 Closed	1750	1.35	171VDC
	JP2 2-3				
5 HP	JP1 2-3	6 Closed	1750	0.95	171VDC
	JP2 2-3				

6.3 *TEST COMPLETE *****

7. NOTES

7.1 None at this time.

8. ATTACHMENTS

8.1 None at this time.