g	GE	Energy	Functional Testing Specification
	Parts & Repair Services Louisville, KY		LOU-GED-125D5339

Test Procedure for a 125D5339

DOCUMENT REVISION STATUS: Determined by the last entry in the "REV" and "DATE" column

REV.	DESCRIPTION	SIGNATURE	REV. DATE	
Α	Initial release Transferred from paper copy to an electronic format.	S. Cash	1/14/2012	
В	Updated drawing and removed some of the hand written notes that were highlighted in "Blue"	S. Cash	1/25/2012	
С				

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DATE 1/14/2012	DATE	DATE	DATE 1/14/2012

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1. SCOPE

1.1 This is a functional testing procedure for a Turbine Control board

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** Check board's electronic folder for more information

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 site specific SRA's 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
2		30VDC Power Supplies
2		Fluke 85 meter or equivalent
1		15VDC power supply

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6. Modifications/Upgrades

6.1 Check Orange Book for any modifications or upgrades.

7. Testing Process

7.1 Setup

7.1.1 Reference the drawing on page three. The following highlighted in "Blue" are hand written notes from test P3K-AL-0216.

7.1.1.1 A = UP **7.1.1.2** B = DOWN **7.1.1.3** G1 = G3 **7.1.1.4** G2 = G4

7.1.1.5 Patchboard PCR-3 #36. Leave patchboard instruction alone.

7.1.1.6 Connect board as shown in figure 1, page 3.

7.2 Testing Procedure

- **7.2.1** Check that TP3 reads 6.2V +- 5%, (5.89V to 6.52V).
- **7.2.2** Set S11 to position A. Voltage at pin 32 should equal -0.294 +- 0.012V, (-0.282V to -0.306V.
- **7.2.3** Set S11 to position B and read the voltage at both Pin-35 and TP7. Check that this can be altered from 0.07V to 0.21V by adjusting R32. Set the voltage at 0.139V. Return S11 to position C.
- 7.2.4 Set S12 to position A and read the voltage at both Pin-39 and TP9. Check that this can be adjusted from 0.604 to 0.714 by adjusting R31. Set the voltage at 0.694V.
 Special Note: G1 and G3 should be set to .694V. G2 and G4 should be set to 1.1V.
- 7.2.5 Set S12 to position B and read the voltage at both Pin-20 and TP4. Check that this can be adjusted from 2.013V to 2.153V by adjusting R30. Set the voltage at 2.083V. Return S12 to position C.
- **7.2.6** Set S15 to position A and read the voltage at both Pin-7 and TP1. Check that this can be adjusted from 2.43V to 2.57V by adjusting R29. Set the voltage at 2.500V
- 7.2.7 Set S15 to position A, Set S4 to position A, and read the voltage at Pin-24. Check that this can be adjusted from 2.75V to 2.875V by adjusting R28. Set the voltage at 2.800V. Return S15 and S4 to position C.
- **7.2.8** Adjust R36 until the voltage between TP6 and TP11 reads 0.00 +-0.001VDC. Check resistance between TP6 and TpP11 approx 24.9 ohms.

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- 7.2.9 Set S5 to position A and check that the voltage reads at both Pin-25 and TP5 can be adjusted from 0V to 0.019 volts by adjusting R33. Set the voltage at 0.019. Return S5 to position C.
- **7.2.10** Set S6 to position A and check that the voltage reads at both Pin-15 and TP2 can be adjusted from 0V to 0.009 volts by adjusting R34. Set the voltage at 0.009.
- **7.2.11** Set S6 to position B and check that the voltage reads at both Pin-37 and TP8 can be adjusted from 0V to 0.006 volts by adjusting R35. Set the voltage at 0.006. Return S6 to position C.
- **7.2.12** Set S5 and S10 to position A.
- 7.2.13 Turn R37 and R38 fully counterclockwise.
- **7.2.14** Set S9 to position A and S8 to position B, make sure +2V is regulated.
- **7.2.15** Adjust R38 to give 0.25VDC at Pin-8.
- **7.2.16** Set S9 to position B, S8 to position A, and adjust R37 to give 0.25VDC at pin 10. There should be +2 @ Pin-11 and -8 @ Pin-9.
- 7.2.17 Return S5, S8, S9, and S10 to position C
- 7.3 Post Testing Burn-in Required _X_ Yes ___ No

Note: 100 hour burn is required for most Turbine Control Boards

7.4 ***TEST COMPLETE ***

8. Notes

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- 8.1 See next page for Figure 1
- 8.2 See Last page for Data Sheet

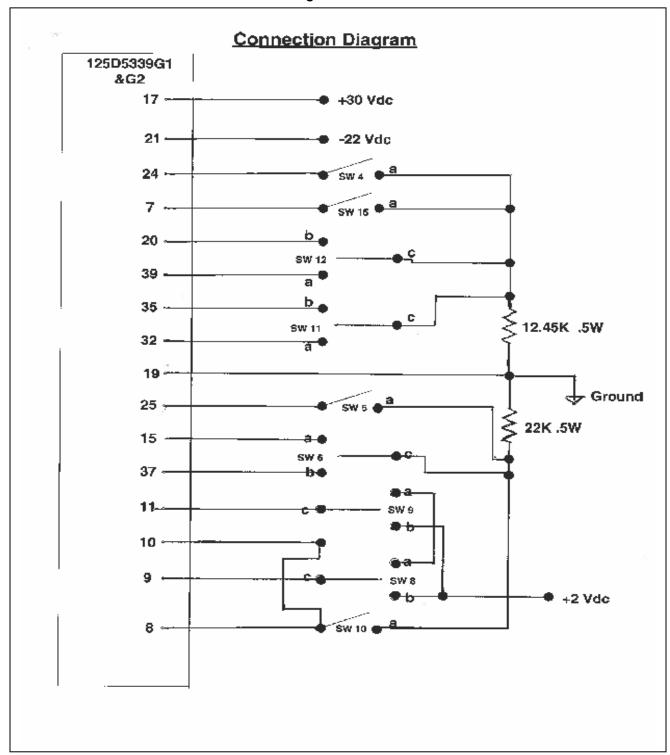
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Figure 1



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Job #	
Serial #	Burn-in Start
Date	
Data Sheet for125D5339G004	Burn-in Stop
Test Procedure LOU-GED-125D5339	Technician

Test	Upper Limit 6.7V -0.282V .21V	Pot Values If applicable CW CCW	Pass/Fail
Test Procedure Step Nominal Lower Limit Burn in Results Burn in Results 7.2.1 6.2VDC 5.7V 7.2.2 -0.29VDC 0.306V 7.2.3 .139VDC .07V 7.2.3 - R32 - -	6.7V -0.282V .21V	If applicable CW	Pass/Fail
Test Procedure Step Nominal Lower Limit Burn in Results Burn in Results 7.2.1 6.2VDC 5.7V 7.2.2 -0.29VDC 0.306V 7.2.3 .139VDC .07V 7.2.3 - R32 - -	6.7V -0.282V .21V	applicable CW	Pass/Fail
Procedure Lower in Results in Results 7.2.1 6.2VDC 5.7V - 7.2.2 -0.29VDC 0.306V - 7.2.3 .139VDC .07V - 7.2.3 - R32 - - -	6.7V -0.282V .21V	CW	Pass/Fail
Step Nominal Limit Results 7.2.1 6.2VDC 5.7V 7.2.2 -0.29VDC 0.306V 7.2.3 .139VDC .07V 7.2.3 - R32	6.7V -0.282V .21V		Pass/Fail
7.2.1 6.2VDC 5.7V 7.2.2 -0.29VDC 0.306V 7.2.3 .139VDC .07V 7.2.3 - R32	6.7V -0.282V .21V	CCW	Pass/Fail
7.2.2 -0.29VDC 0.306V 7.2.3 .139VDC .07V 7.2.3 - R32	-0.282V .21V		
7.2.3 .139VDC .07V 7.2.3 - R32	.21V		
7.2.3 .139VDC .07V 7.2.3 - R32	.21V		
7.2.3 - R32			
	1.3V		
7.2.4 4.41/0.6 01/	1.3V		
7.2.4 1.1VDC .9V			
7.2.4 - R31			
7.2.5 2.083VDC 2.013V	2.153V		
7.2.5 - R30			
7.2.6 2.5VDC 2.43V	2.57V		
7.2.6 - R29			
7.2.7 2.8VDC 2.75V	2.875V		
7.2.7 - R28			
7.2.8 0.0VDC 0V	0V		
7.2.8 - R29			
7.2.9 .019VDC 0V	.019V		
7.2.9 - R33			
7.2.10 .009V 0V	.009V		
7.2.10 - R34			
7.2.11 .006V 0V	.006V		
7.2.11 - R35			
7.2.15 0.25V			
7.2.15 - R38			
7.2.16 0.25V			
7.2.16 - R37			