



GE Energy

## Functional Testing Specification

*Parts & Repair Services  
Louisville, KY*

**LOU-GED-IC3600TILA**

### Test Procedure for a IC3600TILA

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

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	Dan Laemmle	1/26/2007
B	Correct Step 6.2.5 and 6.2.8	Dan Laemmle	11/27/2007
C			

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<b>PREPARED BY</b> Dan Laemmle	<b>REVIEWED BY</b>	<b>REVIEWED BY</b>	<b>QUALITY APPROVAL</b> Charlie Wade
<b>DATE</b> 1/26/2007	<b>DATE</b>	<b>DATE</b>	<b>DATE</b> 11/27/2007

LOU-GED-IC3600TILA REV. B	g  <b>GE Energy</b> Parts & Repair Services Louisville, KY	Page 2 of 3
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## 1. SCOPE

1.1 This is a functional testing procedure for a Card.

## 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 Shop Documentation

## 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		Signal Generator
1		Oscilloscope

LOU-GED-IC3600TILA REV. B	<b>g</b>  <b>GE Energy</b> Parts & Repair Services Louisville, KY	Page 3 of 3
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## 6. TESTING PROCESS

### 6.1 Setup



**Note:** Eyelets that connect the foil side of board to the component side of card should be suspect and resoldered on the component side if any intermittent or other funky operation is observed.

### 6.2 Testing Procedure

- 6.2.1 Apply +5.3 volts to Pin 28, common to Pin 1.
- 6.2.2 Adjust R1 pot full CW.
- 6.2.3 Check all outputs (Pins 3, 9, 10, 15, 16, 17, 22, 25, 31, 36, 37, 38) for low state (06- .07 VDC).
- 6.2.4 Monitor Pin 3 with voltmeter. Slowly adjust R1 CCW until Pin 3 jumps to 5.2 VDC. Check all other outputs for 5.2 VDC. R1 may have to be nudged more CCW to get all outputs to 5.2 volts.
- 6.2.5 Input 5V P-P 60Hz square wave into Pin 23 or Pin 24. (Try both inputs to test the input diodes.) Scope all outputs for 5V square wave and approx. 2.6 VDC.
- 6.2.6 With waveform input, grounding Pin 11 should cause all "A" pulses (at Pins 3, 15, 16, 22, 31, 38) to disappear and the pins should go high (DC level 5.2 VDC).
- 6.2.7 Remove ground from Pin 11 and ground Pin 50. All "B" output pins (Pins 9, 10, 17, 25, 36, 37) should go high with no waveform.
- 6.2.8 Check auxiliary logic circuit voltages: Pins 48, 49 = 2.0 VDC, Pin 30 = .06 VDC, Pins 42, 43 = 2.0 VDC, Pin 44 = .06 VDC.
- 6.2.9 Check resistance value of R3, R4, R5, R6 for all six circuits.

### 6.3 Post Testing Burn-in Required ☐ Yes ☒ No



**Note:** All MARK I, II, & III Turbine related cards require a post testing burn-in of 100 hours.

- 6.3.1 Apply BUS or Operational power to the card for a period of 100 hours.
- 6.3.2 Re-test card while warm using the above procedure.

### 6.4 \*\*\*TEST COMPLETE\*\*\*

## 7. NOTES

- 7.1 None at this time.

## 8. ATTACHMENTS

- 8.1 None at this time.