g GE Industrial Systems	**Functional Testing Specification**
Renewal Services ***Louisville,KY***	**LOU–GED-44C331834**

Test Procedure for a 44C331834G01 Monitor & Alarm Card

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

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	D. Laemmle	7/17/03
B			
C			

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DATE	**DATE**	**DATE**	**DATE**
7/17/03			7/22/03

Functional test procedure for 44C331834G01

1. SCOPE

1.1 This is a functional testing procedure for a 44C331834G01.

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.
2.1.1 Factory test 277A3755.

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 or cracked
4.2.1.2 Terminal strips / connectors broken or cracked
4.2.1.3 Loose wires
4.2.1.4 Components visually damaged
4.2.1.5 Capacitors leaking
4.2.1.6 Solder joints damaged or cold
4.2.1.7 Circuit board burned or de-laminated
4.2.1.8 Printed wire runs 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		Fluke 85 DVM or equiv.
2		Adjustable Power Supply

6. TESTING PROCESS

6.1 Setup

. **6.1.1** Connect a 10K 1/2W resistor between Pin 17 & Pin 18.

6.1.2 Connect 24VDC Supply to Pins 7 (+) and 9(-).

6.1.3 Connect variable supply set to 15VDC to Pins 22(+) and 27(-). Also connect +15V to Pin 19.

6.1.4 Connect a 28V 40ma lamp (or an LED, cathode to Pin 9) between Pins 16 and 9.

6.1.5 Preset Lo and Hi switches on card front to the down position. Adjust Pots (on card) 4P CCW and 3P CW.

6.2 Testing Procedure

6.2.1 Apply power to card and press reset button on card front. Both LEDs on card front should come on.

6.2.2 Connect a DVM to Pins 22(+) and 27(-) and another to Pins 17(+) and 18(-).

6.2.3 Adjust Pot 2P on card for 0VDC +/- .002V. CW lowers voltage. CCW raises voltage.

6.2.4 Increase voltage on Pin 22 to 16.5VDC (+/-.005V). Adjust Pot 1P on card for 0.5VDC (+/- .002V) at Pin 17. Remove meter and resistor connection to Pin 17.

6.2.5 Connect meter (+) to 2TP and (-) to 1TP on card front. Increase voltage on Pin 22 to +23.6VDC (+/- .05V) Adjust Pot 4P on card CW until voltage at 2TP goes to approx. 23VDC. The Lo Alarm LED on the card front should go out. Verify that Pins 11 & 15 are approx +22VDC with respect to Pin 10.

6.2.6 Reduce voltage on Pin 22 to +23.4VDC (+/- .05V) Monitor Pins 15(+) and 10(-) with DVM. Close Lo switch on card front and Lamp (or LED) connected to Pin 16 should come on and DVM on Pin 15 should go from +22VDC to +0.9VDC (+/- 0.5V). Open Lo switch and Lamp should go out and DVM should go back to +23VDC. Remove DVM from Pins 15 and 10.

6.2.7 Connect Pin 14 to Pin 7 and Lo Alarm light on card front should come on. Remove connection and light should go out.

6.2.8 Connect Pin 13 to Pin 7 and Lo Alarm light should come on. Remove connection and lamp should go out.

6.2.9 Increase voltage on Pin 22 to 24VDC (+/-05V). Lo Alarm light should be off. Press and release reset button on card front and Lo Alarm light should come on and stay on.

6.2.10 Increase voltage on Pin 22 to +26VDC (+/-.05V) Adjust Pot 3P on card until voltage at 3TP on car front goes to approx. + 25.7VDC. Verify Pins 11(+) to 10 (-) is 0 to .7v and Pin 15 (+) to 10(-) is +22VDC (+/- 1v) when 3TP is +25.7V.

6.2.11 Place the DVM across Pins 15(+) and 10(-). Close Hi switch (2SW) on card front and Lamp on Pin 16 should come on and DVM should go to +0.9V (+/- 0.5v) Hi light on card front should not come on. Open Hi switch and Lamp on Pin 16 should go out and DVM should go back to +22VDC.

6.2.12 Connect Pin 14 to Pin 7 and Hi light on card front should come on. Remove connection and light should go out.

6.2.13 Reduce voltage on Pin 21 to +15VDC (+/-.05V) Hi light should remain off. Press and release reset button and Hi light should come on and stay on. Using Pin 9 as common, verify Pins 11 and 15 are +22VDC (+/- 1V).

6.3 ***TEST COMPLETE ***

7. NOTES

Recommend changing out the 2 optocoupler ICs because of intermittent failures.