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GE Industrial Systems

**Functional Testing Specification**

*Renewal Services  
Louisville, KY*

**LOU-GED-44C331834**

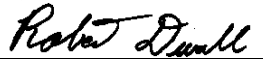
**Test Procedure for a 44C331834G01 Monitor & Alarm Card**

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<b>PREPARED BY</b> D. Laemmle	<b>REVIEWED BY</b>	<b>REVIEWED BY</b>	<b>QUALITY APPROVAL</b> 
<b>DATE</b> 7/17/03	<b>DATE</b>	<b>DATE</b>	<b>DATE</b> 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

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## 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.

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**6.2.9** Increase voltage on Pin 22 to 24VDC (+/-0.5V). 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 (+/-0.5V) Adjust Pot 3P on card until voltage at 3TP on card 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 (+/-0.5V) 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.**