

g

GE Industrial Systems

Functional Testing Specification

*Renewal Services
Louisville, KY*

LOU-GED-44C331862

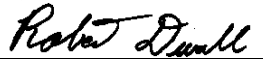
Test Procedure for a 44C331862G01 +/-15 Volt Supply Card

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

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	D. Laemmle	6/30/03
B			
C			

© COPYRIGHT GENERAL ELECTRIC COMPANY

PROPRIETARY INFORMATION – THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF GENERAL ELECTRIC COMPANY AND MAY NOT BE USED OR DISCLOSED TO OTHERS, EXCEPT WITH THE WRITTEN PERMISSION OF GENERAL ELECTRIC COMPANY.

PREPARED BY Dan Laemmle	REVIEWED BY	REVIEWED BY	QUALITY APPROVAL 
DATE 6/30/03	DATE	DATE	DATE 8/4/03

Functional test procedure for +/- 15V Power Supply Card

1. SCOPE

1.1 This is a functional testing procedure for a 44C331862G01.

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 **277A3761**

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.

LOU-GED-44C331862 REV. A	g GE Industrial Systems <i>Renewal Services</i> <i>Louisville, KY</i>	Page 3 of 5
---	--	--------------------

Qty	Reference #	Description
3		Fluke 85 DVM or equiv.
1		0-32v 3A power supply
1		13 ohm 20w resistor
1		23 ohm 10w resistor
1		18 ohm 10w resistor
1		1200 ohm 2w resistor
1		100 ohm 2w resistor

<p>LOU-GED-44C331862 REV. A</p>	<p>g</p> <p>GE Industrial Systems Renewal Services Louisville, KY</p>	<p>Page 4 of 5</p>
--	---	---------------------------

6. TESTING PROCESS

6.1 Setup

6.1.1 Adjust the following pots CW: J2P, J1P, G1P, G5P. Adjust the following pots CCW: G2P, G4P.

6.1.2 Jumper Pin 15 to Pin 2.

6.2 Testing Procedure

6.2.1 POSITIVE 15V SECTION Connect a 0 – 32v 3A variable power supply set at 0v to Pin 11, - to Pin 3. Also connect a DC voltmeter to Pin 11, - to Pin 3. Connect another DC voltmeter to Pin 2, - to Pin 19.

6.2.2 Turn on the +/-15V switch on the card front and slowly increase the variable supply at Pin 11 to +24VDC. Pin 2 should increase to 12.85 +/- 0.5VDC.

6.2.3 Adjust G2P fully clockwise. Pin 2 = 17.3 +/- 0.5VDC. Readjust G2P for 15v +/- .005V.

6.2.4 Connect an ammeter in series with a 23 ohm 10w resistor in series with a switch from Pin 1 to Pin 3. With the switch open, monitor the 15v at Pin 2. Lower the supply at Pin 11 to +20V and see that the voltage at Pin 2 remains at 15.0V. Close the ammeter circuit switch to apply the load and see that Pin 2 remains at 15.0V and the ammeter reads approx .64 amps. Open the switch and increase Pin 11 to 32V. Pin 2 volts should remain 15.0V. Close switch and current should be .64amps and voltage 15.0V. Open switch.

6.2.5 Change load resistor from 23 ohms to 13 ohms 20W. With Pin 11 input at 32V, close switch and adjust G1P until current limits at 1000MA.

6.2.6 Connect a 100 ohm 2W resistor from Pin 3 to Pin 19. Adjust G2P for 17V Pin 2 to Pin 19. Adjust G1P slowly CCW until 8-9 volts appears across the 100 ohm resistor. Readjust G2P downward so that the voltage across the 100 ohm resistor is again 0V and Pin 2 is 15V. Again increase G2P until 8-9V appears across the 100 ohm resistor. This should occur just as the voltage at Pin 2 reaches 17V.

6.2.7 Return G2P to 15.00 volts at Pin 2.

6.2.8 NEGATIVE 15V SECTION Adjust the variable supply to 0V. Jumper Pin 17 to Pin 8. Connect variable supply (+) to Pin 5, (-) to Pin 13. Also connect a Voltmeter (+) to Pin 5, (-) to Pin 13. Connect another voltmeter (+) to Pin 8, (-) to Pin 6.

<p>LOU-GED-44C331862 REV. A</p>	<p>g</p> <p>GE Industrial Systems Renewal Services Louisville, KY</p>	<p>Page 5 of 5</p>
--	---	---------------------------

- 6.2.9** Connect the ammeter in series with an 18 ohm 10W resistor in series with a switch. Leave the switch open.
- 6.2.10** With the +/- 15V switch on the card front on, slowly increase the variable supply to +30V at Pin 5. Pin 8 voltage should go to -11.35 +/-0.5VDC.
- 6.2.11** Adjust G4P fully CW. Pin 8 = -18.25+/- 0.5VDC. Readjust G4P for -15V +/- .005VDC.
- 6.2.12** Monitor the voltage on Pin 8. With the variable supply at Pin 5 adjusted to +24VDC, close the ammeter circuit switch to put the 18 ohm load in the circuit. The ammeter should read approx. .815 amps. Adjust the variable supply at Pin 5 to +20V and then to +32V while observing that the ammeter stays at .815 amps and Pin 8 stays between -14.95 to -15.01VDC.
- 6.2.13** With Pin 5 at 32V and the ammeter switch closed, adjust G5P until the current limits at 750MA. Open ammeter circuit switch.
- 6.2.14** Connect a 1200 ohm 2W resistor from Pin 20 to Pin 7. Adjust G4P for -17V at Pin 8. Adjust G2P CCW until a voltmeter connected across the 1200 ohm resistor changes from 0 to 14.37V. Readjust G4P until Pin 8 is again -15V and the voltage across the resistor is 0V. Slowly adjust G4P until the voltage across the resistor jumps to 14.37V. This should occur with Pin 8 at -17.0V. Readjust G4P to -15.00V at Pin 8.
- 6.2.15** Turn off power. Connect an ohmmeter from center terminal of out jack on card front to Pin 1. Turn pot from one end to the other to test it (1940 to 2060 ohms). Repeat from Pin 8 to center terminal of jack.

6.3 *TEST COMPLETE *****

7. NOTES

This test rewritten from Factory Test 277A3761. New card voltage tolerances are given in it.