



GE Energy

Functional Testing Specification

Parts & Repair Services
Louisville, KY

LOU-GED-4006L4114

Test Procedure for a 4006L4114 card.

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A	Initial release	John Madden	3/29/2007
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C			

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1. SCOPE

1.1 This is a functional testing procedure for a Conduction Sensor/Gate Disconnect 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 N:\Design Folders\4xx\4006\4006L\4006L4114

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
3		Fluke 87 DMM (or Equivalent)
1		12VDC power supply
1	H188963	4006L4114 Tester
1		5VDC power supply(adjustable)

6. TESTING PROCESS

6.1 Setup Testing Procedure

- 6.1.1** Connect the 12VDC source to the tester (Connect a current meter in series with power supply). Orange to +12VDC and Black to ground.
- 6.1.2** Connect the conduction sensor coil to a adjustable 5VDC 1AMP max source (SET TO ZERO VOLTS) (connect a current meter in series with conduction sensor coil). Yellow jack to positive and brown to ground.
- 6.1.3** Install the unit to be tested on the tester then install the conduction sensor coil over the hall effect sensors. U1, U2, U3, U4 Slide the four sensor through the conduction sensor coil slit. CAUTION must be taken not to bend any of the sensors.
- 6.1.4** Connect the 10 pin ribbon cables to JCX and JCY.
- 6.1.5** On the board they are two sets of stab on connectors CPC1 thru CPC6 and CPC7 thru CPC12.
- 6.1.6** These connectors enable different outputs. Move the stab on jumpers to CPC1 to 1 and CPC7 to 7.
- 6.1.7** Apply power the 12VDC source only Verify the current measures 19ma and no LEDS are on.
- 6.1.8** Verify that TB1-2 and TB2-2 measures 12 volts to TB1-10(GROUND). Connect the jumper to each row and verify the outputs on the terminal blocks.

STAB		OUTPUT
CPC1 TO 1	TB1-2	12 VOLTS
CPC2 TO 2	TB1-3	12 VOLTS
CPC3 TO 3	TB1-4	12 VOLTS
CPC4 TO 4	TB1-7	12 VOLTS
CPC5 TO 5	TB1-8	12 VOLTS
CPC6 TO 6	TB1-9	12 VOLTS
CPC7 TO 7	TB2-2	12 VOLTS
CPC8 TO 8	TB2-3	12 VOLTS
CPC9 TO 9	TB2-4	12 VOLTS
CPC10 TO 10	TB2-7	12 VOLTS
CPC11 TO 11	TB2-8	12 VOLTS
CPC12 TO 12	TB2-9	12 VOLTS

- 6.1.9 Now set the stab on connectors to CPC1 to 1 and CPC7 to 7.
- 6.1.10 Apply power to the conduction sensor coil and slowly adjust up the voltage.
- 6.1.11 Verify the LED's 2 and 4 comes on about 2.5 to 3 volts. Verify current though the coil measures 200ma to 230ma.
- 6.1.12 Verify that the 12VDC source current measures 25ma to 35 ma.
- 6.1.13 Verify that TB1-2 and TB2-2 measures .6 volts to TB1-10(GROUND) when LED's are on.
- 6.1.14 Set to 5VDC conduction sensor power supply to zero volts.
- 6.1.15 Now reverse the leads so the yellow jack is to ground and brown jack is connected to the positive side of supply.
- 6.1.16 Slowly adjust the voltage up at about -2.5v to -3 volts LED's 1 and 3 should come on and verify the current measures 200ma to 230ma.
- 6.1.17 Verify that the 12VDC source current measures 25ma to 35 ma.
- 6.1.18 Verify that TB1-2 and TB2-2 measures .6 volts TB1-10(GROUND) when LED's are on.

6.2 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.

- 6.2.1 Make sure that the card has at least two jumper wires on it before it is shipped.

6.3 *TEST COMPLETE*****

7. NOTES

- 7.1 None at this time.

8. ATTACHMENTS

- 8.1 None at this time.