| g GE Energy | **Functional Testing Specification** |
|---|---|
| ***Parts & Repair Services***<br>***Louisville, KY*** | **LOU-GED-DS200CDBAG1B** |

## Test Procedure for a Contactor Driver

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

| REV. | DESCRIPTION | SIGNATURE | REV. DATE |
|---|---|---|---|
| A | Initial release | J Hardin | 7/15/2009 |
| B | Changed voltage from 14V to 35V at step 6.1.18 | K. Greenwell | 1/12/2010 |
| C | Placed test cables and load into a box fixture H188938 | B. Cash | 8/12/2010 |
| D | Changes several reading and added steps 6.2.16 and 6.2.17 | J. Hardin | 8/30/2010 |
| E | Corrected several reading and steps | J. Hardin | 8/06/2013 |
| F | Added steps to improve reliability and decrease warranties | S. Pharris | 10/10/2013 |



| PREPARED BY | REVIEWED BY | REVIEWED BY | QUALITY APPROVAL |
|---|---|---|---|
| J. Hardin | S. Cash | J. Hardin | Charlie Wade |
| **DATE** | **DATE** | **DATE** | **DATE** |
| 7/15/2009 | 8/12/2010 | 8/30/2010 | 7/15/2009 |

## 1. SCOPE

**1.1** This is a functional testing procedure for a Contactor Driver 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** GEI-100182B
- **3.1.2** Also can check the board's electronic folder for more information.

## 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 |
|---|---|---|
| 2 | | Fluke 87 DMM (or Equivalent) |
| 1 | H188938 | DS200CDBAG Tester |
| 1 | H188501 | Digital Thermometer |

## 6. TESTING PROCESS

### 6.1 Setup

**6.1.1** All connections, cables, etc., are now part of fixture H188938.

### 6.2 Testing Procedure

**6.2.1** Connect a current meter in series with the load - on fixture H188938.

**6.2.2** Turn Pot RV1 full counter clockwise.

**6.2.3** Apply 115 VAC to 1TB11 & 1TB12 via the Black toggle switch on front.

**6.2.4** Connect green connectors to 1TB1 thru 1TB3, 1TB7 thru 1TB9, and 1TB10 thru 1TB12.

**6.2.5** Measure between ACOMA & P15A for +15 VDC (+20%) supply.

**6.2.6** Check for approx. 35VDC across load coil (MPL1 –MPL3)

**6.2.7** Current meter should read approx. 0.4 amps.

**6.2.8** Turn Pot RV1 full clockwise

**6.2.9** Check for approx. 105VDC across load coil (MPL1 –MPL3)

**6.2.10** Current meter should read approx. 1.4 amps.

**6.2.11** Turn Pot RV1 full counter clockwise

**6.2.12** Turn switch connected between MPL 11-12 to ON

**6.2.13** Check for approx. 105VDC across load coil (MPL1 –MPL3)

**6.2.14** Turn all switches off.

**6.2.15** Move JP-2 to 2-3. Turn black toggle switch back on. Voltage across coil should be approx 35V. Remove +24 VDC from ITB-1 and ITB-2. LED-1 should illuminate and voltage across coil should now got to 0 volts.

**6.2.16** Power down UUT

**6.2.17** Move JP-2 back to 1-2

**6.2.18** Reapply power to UUT

**6.2.19** Insert temperature probe thru hole in front of UUT cover and touch tip to Q9. (See the shop card and find the blue dot on Q9 for recommended placement of temperature probe)

**6.2.20** Allow UUT to burn in for 20 minutes

**6.2.21** Verify temperature never goes above 140 degrees Fahrenheit. (Shop Card read 135 Degrees after 20 minutes)

**6.2.22** Remove temperature probe

**6.2.23** Repeat test steps **6.2.2 – 6.2.16**

**6.3** End of test.

**7. NOTES**

**7.1** Found units were failing after extended periods due to heat related issues not caught in the brief time the card is powered on during test. Added burn in steps to reduce these failures.

**8. ATTACHMENTS**

**8.1** None at this time