| g GE Energy | **Functional Testing Specification** |
|---|---|
| ***Parts & Repair Services***<br>***Louisville, KY*** | **LOU-GED-992D401G1** |

# Test Procedure for a Valve Position Demodulator Card

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

| REV. | DESCRIPTION | SIGNATURE | REV. DATE |
|---|---|---|---|
| A | Initial release. Copied into our format from Salem procedure P24B-AL-5011 re-write dated 3/30/1988 | J. Archibald | 2/18/2012 |
| B | | | |
| C | | | |

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| **DATE** | **DATE** | **DATE** | **DATE** |
| 2/18/2012 | | | 2/18/2012 |

Functional test procedure for a Valve Position Demodulator Card

## 1. SCOPE

**1.1** This is a functional testing procedure for a 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 P24B-AL-5011 - Salem test Instruction**

**3.1.2 115D2906 – System Schematic**

## 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 |
|---|---|---|
| 1 | | Fluke 85 DMM (or Equivalent) |
| 1 | | 15 VDC Power Supply |
| | | |
| | | |

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## 6. TESTING PROCESS

**6.1** Setup

**6.1.1** Connect test per figure 1

**6.2** Testing Procedure

**6.2.1** Circuit MSV-1

**6.2.1.1** Adjust R15 CCW. Adjust R12 CW.

**6.2.1.2** Connect pin-8 and pin-11 to common.

**6.2.1.3** Add 5K ohm resistor across pin-7 and pin-8.

**6.2.1.4** Apply +10VDC to pin-10, and read at pin-7, +2.63VDC (tolerance 2.5V to 2.77V).

**6.2.1.5** Adjust R12 CCW and read at pin-7, +2.5VDC (tolerance 2.38V to 2.63V).

**6.2.1.6** Adjust R15 CW and read at pin-7, +5VDC (tolerance 4.95V to 5.05V).

**6.2.1.7** Remove 5K resistor from pin-7 and pin-8. Apply +10VDC to Pin-7, common to pin-8, and read voltage at pin-10 +2.86VDC (tolerance 2.6V to 2.9V).

**6.2.2** Circuit MSV-3

**6.2.2.1** Adjust R20 CCW. Adjust R17 CW.

**6.2.2.2** Connect pin-14 and pin-17 to common.

**6.2.2.3** Add 5K ohm resistor across pin-13 and pin-14.

**6.2.2.4** Apply +10VDC to pin-16, and read at pin-13, +2.63VDC (tolerance 2.5V to 2.77V).

**6.2.2.5** Adjust R17 CCW and read at pin-13, +2.5VDC (tolerance 2.38V to 2.63V).

**6.2.2.6** Adjust R20 CW and read at pin-13, +5VDC (tolerance 4.95V to 5.05V).

**6.2.2.7** Remove 5K resistor from pin-13 and pin-14. Apply +10VDC to Pin-13, common to pin-14, and read voltage at pin-16 +2.86VDC (tolerance 2.6V to 2.9V).

**6.2.3** Circuit MSV-4

**6.2.3.1** Adjust R25 CCW. Adjust R22 CW.

**6.2.3.2** Connect pin-20 and pin-23 to common.

**6.2.3.3** Add 5K ohm resistor across pin-19 and pin-20.

**6.2.3.4** Apply +10VDC to pin-22, and read at pin-19, +2.63VDC (tolerance 2.5V to 2.77V).

**6.2.3.5** Adjust R22 CCW and read at pin-19, +2.5VDC (tolerance 2.38V to 2.63V).

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**6.2.3.6** Adjust R25 CW and read at pin-19, +5VDC (tolerance 4.95V to 5.05V).

**6.2.3.7** Remove 5K resistor from pin-19 and pin-20. Apply +10VDC to Pin-19, common to pin-20, and read voltage at pin-22 +2.86VDC (tolerance 2.6V to 2.9V).

**6.2.4** Circuit IV-2

**6.2.4.1** Adjust R30 CCW. Adjust R27 CW.

**6.2.4.2** Connect pin-26 and pin-29 to common.

**6.2.4.3** Add 5K ohm resistor across pin-25 and pin-26.

**6.2.4.4** Apply +10VDC to pin-22, and read at pin-19, +2.63VDC (tolerance 2.5V to 2.77V).

**6.2.4.5** Adjust R22 CCW and read at pin-19, +2.5VDC (tolerance 2.38V to 2.63V).

**6.2.4.6** Adjust R25 CW and read at pin-19, +5VDC (tolerance 4.95V to 5.05V).

**6.2.4.7** Remove 5K resistor from pin-19 and pin-20. Apply +10VDC to Pin-19, common to pin-20, and read voltage at pin-22 +2.86VDC (tolerance 2.6V to 2.9V).

**6.2.5** Circuit IV-4

**6.2.5.1** Adjust R25 CCW. Adjust R22 CW.

**6.2.5.2** Connect pin-20 and pin-23 to common.

**6.2.5.3** Add 5K ohm resistor across pin-19 and pin-20.

**6.2.5.4** Apply +10VDC to pin-22, and read at pin-19, +2.63VDC (tolerance 2.5V to 2.77V).

**6.2.5.5** Adjust R22 CCW and read at pin-19, +2.5VDC (tolerance 2.38V to 2.63V).

**6.2.5.6** Adjust R25 CW and read at pin-19, +5VDC (tolerance 4.95V to 5.05V).

**6.2.5.7** Remove 5K resistor from pin-19 and pin-20. Apply +10VDC to Pin-19, common to pin-20, and read voltage at pin-22 +2.86VDC (tolerance 2.6V to 2.9V).

**6.2.6** Circuit IV-6

**6.2.6.1** Adjust R25 CCW. Adjust R22 CW.

**6.2.6.2** Connect pin-20 and pin-23 to common.

**6.2.6.3** Add 5K ohm resistor across pin-19 and pin-20.

**6.2.6.4** Apply +10VDC to pin-22, and read at pin-19, +2.63VDC (tolerance 2.5V to 2.77V).

**6.2.6.5** Adjust R22 CCW and read at pin-19, +2.5VDC (tolerance 2.38V to 2.63V).

**6.2.6.6** Adjust R25 CW and read at pin-19, +5VDC (tolerance 4.95V to 5.05V).

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**6.2.6.7** Remove 5K resistor from pin-19 and pin-20. Apply +10VDC to Pin-19, common to pin-20, and read voltage at pin-22 +2.86VDC (tolerance 2.6V to 2.9V).

**6.2.7**

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## 7. NOTES

Figure 7.1

### 7.2 Example Data

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