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GE Energy

Functional Testing Specification*Parts & Repair Services
Louisville, KY***LOU-GED-IS200EMCS****Test Procedure for an IS200EMCSG1A Multi-bridge Conduction Sensor.****DOCUMENT REVISION STATUS:** Determined by the last entry in the "REV" and "DATE" column


REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	J. Francis	01/06/2014
B	Corrected typo's in steps 6.1.1 and 6.2.3.	J.Francis	09/27/2016

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DATE 01/06/2014	DATE	DATE	DATE 9/27/2016

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1. SCOPE

- 1.1 This is a functional testing procedure for an IS200EMCSG1Axx MultiBridge Conduction Sensor Board.

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 Check 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 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 87 DMM (or Equivalent)
1		Power Supply
1		Magnet (small)

6. TESTING PROCESS

6.1 Static Check with Ohm Meter

6.1.1 Using Fluke 87 DMM (or Equivalent), set for Ohms/Resistance Function, check points for readings listed in table below:

From:	To:	Expected Results
P1A-1	P1B-1	Continuity (< 1 ohm)
P1A-1	U1 pin 1	Continuity (< 1 ohm)
P1A-1	U2 pin 1	Continuity (< 1 ohm)
P1A-1	R1 (side away from P1A)	Continuity (< 1 ohm)
P1A-1	C1 (side away from P1A)	Continuity (< 1 ohm)
P1A-2	R1 (side closest to P1A)	Continuity (< 1 ohm)
P1A-2	P1A-5	Continuity (< 1 ohm)
P1A-2	P1B-2	Continuity (< 1 ohm)
P1A-2	P1B-5	Continuity (< 1 ohm)
P1A-2	U1 pin 3	Continuity (< 1 ohm)
P1A-2	U3 pin 3	Continuity (< 1 ohm)
P1A-3	P1B-3	Continuity (< 1 ohm)
P1A-4	P1B-4	Continuity (< 1 ohm)
P1A-4	C1 (side closest to P1A)	Continuity (< 1 ohm)
P1A-4	U1 pin 2	Continuity (< 1 ohm)
P1A-4	U2 pin 2	Continuity (< 1 ohm)
P1A-4	R4 (side closest to P1A)	Continuity (< 1 ohm)
E1 (eyelet)	R2 (side closest to E1)	Continuity (< 1 ohm)
R2 (side closest to E1)	R4 (side closest to P1A)	996 KOhms +/- 9960 Ohm
R1 (side closest to P1A)	R1 (side away from P1A)	10 KOhms +/- 100 Ohm

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6.2 Testing Procedure

- 6.2.1** Using Power Supply, connect +12 VDC \pm 0.5 VDC positive lead to P1A-1.
- 6.2.2** Connect 12 VDC return, negative lead, from Power Supply to P1A-2.
- 6.2.3** Using Fluke 87 DMM (or Equivalent), set for DC Volts Function, positive lead to P1A-4 and negative lead to P1A-3, check for 0.6 VDC \pm 0.2 VDC. Leave connected for remainder of testing.
- 6.2.4** Move Magnet close to U1 and U2. Reading on DMM should drop to less than 0.1 VDC \pm 0.1 VDC.
- 6.2.5** Move Magnet away to U1 and U2. Reading on DMM should return to 0.6 VDC \pm 0.2 VDC.

6.3 *TEST COMPLETE *****

7. NOTES

- 7.1** None at this time.

8. ATTACHMENTS

- 8.1** None at this time.