g GE Energy	**Functional Testing Specification**
Parts & Repair Services ***Louisville, KY***	**LOU-GED-IS200STCIH2A**

Test Procedure for a IS200STCIH2A

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

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	Scott Cash	1-8-2013
B			
C			

PREPARED BY	REVIEWED BY	REVIEWED BY	QUALITY APPROVAL
S. Cash			Charlie Wade
DATE	**DATE**	**DATE**	**DATE**
1/8/2013			1/10/2013

1. SCOPE

1.1 This is a functional testing procedure for a Din Rail Contact Input 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 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 85 or 87 Multimeter or equivalent
1		Power supply capable of more than 40 VDC (Tenma 72-2080)

6. Modifications/Upgrades

6.1 Check Orange Book for any modifications or upgrades.

7. Testing Process

7.1 Setup

7.1.1 Set test power supply to the minimum current setting possible. It will be used to test diodes and we don't want them to be damaged by high current.

7.2 Testing Procedure

7.2.1 Use the Tenma power supply to test the breakdown voltage of the TVS diodes in the following list. Check them in both directions turning up the power after connections are made. There is a parts location image in the notes section.

TB1-2	SCOM-E1\E2	Should conduct at 40 VDC in both directions
TB1-4	SCOM-E1\E2	Should conduct at 40 VDC in both directions
TB1-6	SCOM-E1\E2	Should conduct at 40 VDC in both directions
TB1-8	SCOM-E1\E2	Should conduct at 40 VDC in both directions
TB1-10	SCOM-E1\E2	Should conduct at 40 VDC in both directions
TB1-12	SCOM-E1\E2	Should conduct at 40 VDC in both directions
TB1-14	SCOM-E1\E2	Should conduct at 40 VDC in both directions
TB1-16	SCOM-E1\E2	Should conduct at 40 VDC in both directions
TB1-18	SCOM-E1\E2	Should conduct at 40 VDC in both directions
TB1-20	SCOM-E1\E2	Should conduct at 40 VDC in both directions
TB1-22	SCOM-E1\E2	Should conduct at 40 VDC in both directions
TB1-24	SCOM-E1\E2	Should conduct at 40 VDC in both directions
TB1-26	SCOM-E1\E2	Should conduct at 40 VDC in both directions
TB1-28	SCOM-E1\E2	Should conduct at 40 VDC in both directions
TB1-30	SCOM-E1\E2	Should conduct at 40 VDC in both directions
TB1-32	SCOM-E1\E2	Should conduct at 40 VDC in both directions
TB1-34	SCOM-E1\E2	Should conduct at 40 VDC in both directions
TB1-36	SCOM-E1\E2	Should conduct at 40 VDC in both directions
TB1-38	SCOM-E1\E2	Should conduct at 40 VDC in both directions
TB1-40	SCOM-E1\E2	Should conduct at 40 VDC in both directions
TB1-42	SCOM-E1\E2	Should conduct at 40 VDC in both directions
TB1-44	SCOM-E1\E2	Should conduct at 40 VDC in both directions
TB1-46	SCOM-E1\E2	Should conduct at 40 VDC in both directions
TB1-48	SCOM-E1\E2	Should conduct at 40 VDC in both directions

7.2.2 Perform the resistance checks in the following tables. Check the resistance of your meter leads so that the low resistance values don't appear to be failures.

TB1-1	TB1-17	Less than 1 ohm
TB1-1	TB1-15	Less than 1 ohm
TB1-1	TB1-13	Less than 1 ohm
TB1-1	TB1-11	Less than 1 ohm
TB1-1	TB1-9	Less than 1 ohm
TB1-1	TB1-7	Less than 1 ohm
TB1-1	TB1-5	Less than 1 ohm
TB1-1	TB1-3	Less than 1 ohm
TB1-1	TB1-37	Less than 1 ohm
TB1-1	TB1-39	Less than 1 ohm
TB1-1	TB1-41	Less than 1 ohm
TB1-1	TB1-43	Less than 1 ohm
TB1-1	TB1-45	Less than 1 ohm
TB1-1	TB1-47	Less than 1 ohm
TB1-1	TB1-49	1 ohm +\- 5%
TB1-1	TB1-50	1 ohm +\- 5%
TB1-1	JE1-1	1 ohm +\- 5%
TB1-1	JA1-32	86.5k ohms +\- 1%
TB1-2	JA1-3	118K ohms +\- 1%
TB1-4	JA1-4	118K ohms +\- 1%
TB1-6	JA1-5	118K ohms +\- 1%
TB1-8	JA1-6	118K ohms +\- 1%
TB1-10	JA1-7	118K ohms +\- 1%
TB1-12	JA1-8	118K ohms +\- 1%
TB1-14	JA1-9	118K ohms +\- 1%
TB1-16	JA1-10	118K ohms +\- 1%
TB1-18	JA1-11	118K ohms +\- 1%
TB1-20	JA1-12	118K ohms +\- 1%
TB1-22	JA1-13	118K ohms +\- 1%
TB1-24	JA1-14	118K ohms +\- 1%
TB1-26	JA1-15	118K ohms +\- 1%
TB1-28	JA1-16	118K ohms +\- 1%
TB1-30	JA1-22	118K ohms +\- 1%
TB1-32	JA1-23	118K ohms +\- 1%

TB1-34	JA1-24	118K ohms +\- 1%
TB1-36	JA1-16	138K ohms +\- 1%
TB1-38	JA1-26	118K ohms +\- 1%
TB1-40	JA1-27	118K ohms +\- 1%
TB1-42	JA1-28	118K ohms +\- 1%
TB1-44	JA1-29	118K ohms +\- 1%
TB1-46	JA1-34	118K ohms +\- 1%
TB1-48	JA1-35	118K ohms +\- 1%
TB1-51	TB1-52	Less than 1 ohm
TB1-51	JE1-3	Less than 1 ohm
TB1-51	JA1-30	Less than 2 ohms
TB1-19	TB1-21	Less than 1 ohm
TB1-19	TB1-23	Less than 1 ohm
TB1-19	TB1-25	Less than 1 ohm
TB1-19	TB1-27	Less than 1 ohm
TB1-19	TB1-29	Less than 1 ohm
TB1-19	TB1-31	Less than 1 ohm
TB1-19	TB1-33	Less than 1 ohm
TB1-19	TB1-35	Less than 1 ohm
E1	E2	Less than 1 ohm

7.2.3 Check the capacitors in the following table with the Fluke meter set to capacitor check.

C5	1.4uf +\- .01
C9	1.4uf +\- .01
C13	1.4uf +\- .01
C17	1.31uf +\- .01
C21	1.31uf +\- .01
C1	.093uf +\- .01
C2	1.31uf +\- .01
C6	1.31uf +\- .01
C10	1.31uf +\- .01
C14	1.31uf +\- .01
C18	1.31uf +\- .01
C22	1.31uf +\- .01
C24	1.31uf +\- .01
C4	1.31uf +\- .01
C8	1.31uf +\- .01
C12	1.31uf +\- .01
C16	1.31uf +\- .01
C20	1.31uf +\- .01
C3	1.31uf +\- .01
C7	1.31uf +\- .01
C11	1.31uf +\- .01
C15	1.31uf +\- .01
C19	1.31uf +\- .01
C23	1.31uf +\- .01
C25	1.31uf +\- .01

7.2.4 Test the remaining resistors that could not be checked with connector measurements.

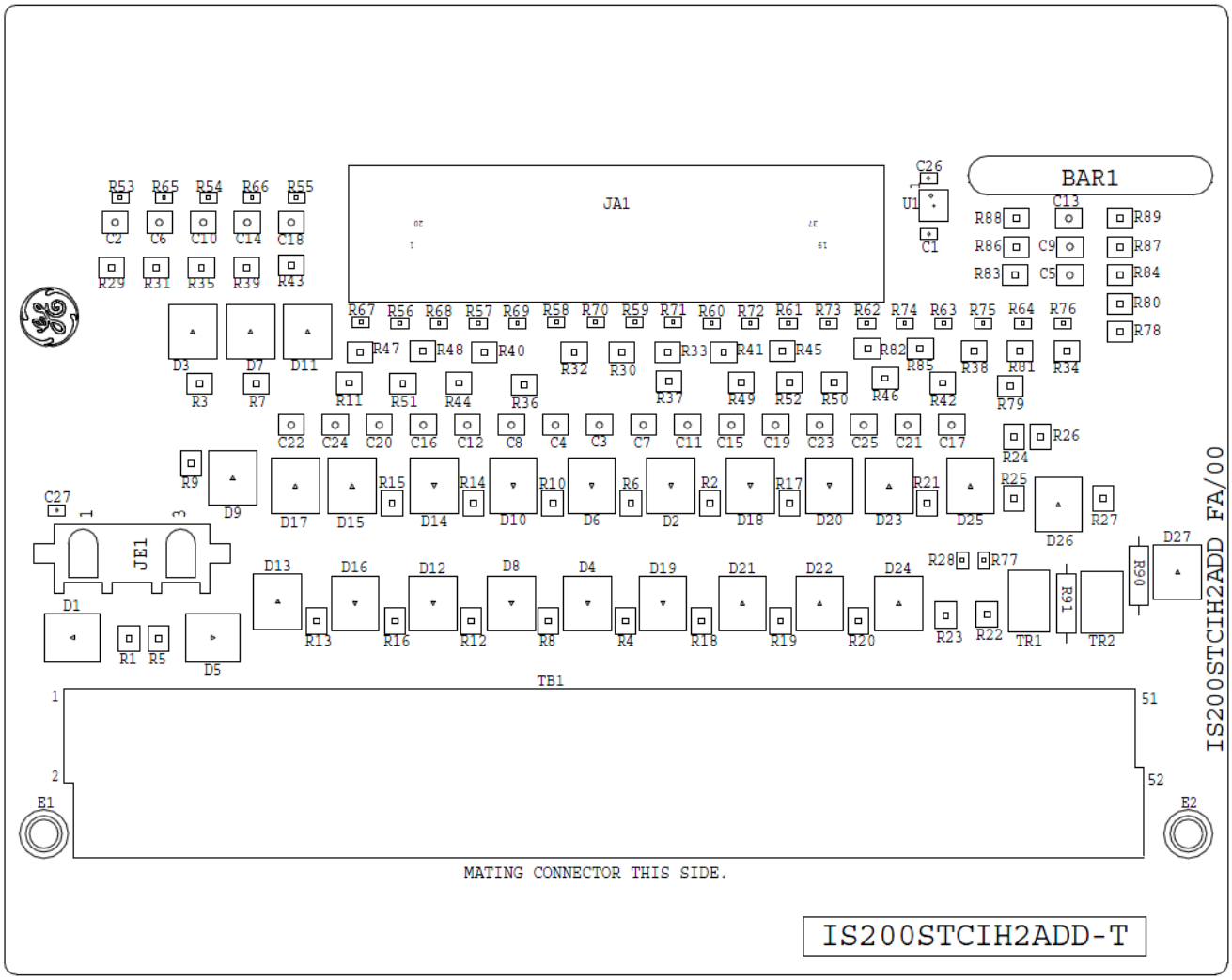
R83	4.1 ohm +\- 1%
R84	4.1 ohm +\- 1%
R86	4.1 ohm +\- 1%
R87	4.1 ohm +\- 1%
R88	4.1 ohm +\- 1%
R89	4.1 ohm +\- 1%
R22	1.2k ohms +\- 1%
R23	1.2k ohms +\- 1%
R24	1.2k ohms +\- 1%
R25	1.2k ohms +\- 1%
R26	1.2k ohms +\- 1%
R27	1.2k ohms +\- 1%
TR1	Less than 2 ohms
TR2	Less than 2 ohms
R1	10k ohm +\- 1%
R3	10k ohm +\- 1%
R5	10k ohm +\- 1%
R7	10k ohm +\- 1%
R9	10k ohm +\- 1%
R11	10k ohm +\- 1%
R13	10k ohm +\- 1%
R15	10k ohm +\- 1%

7.2.5 Read and verify the ID chip.

7.3 ***TEST COMPLETE ***

8. Notes

8.1 Parts locations below.



9. Attachments

9.1 None at this time.