g GE Energy	**Functional Testing Specification**
Inspection & Repair Services ***Louisville, KY***	**LOU-GED-DS200PCCAG7**

Test Procedure for a DS200PCCAG7 power connect card

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A	Initial Release	K. Greenwell	10/28/08

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10/28/2008	1/12/2009		10/28/2008

Functional test procedure for a DS2000 Power Connect Card.

1. SCOPE

1.1 This is a functional testing procedure for a DS200PCCAG7 power connect 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 GEK85769A or GEJ7301

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 or cracked
4.2.1.2 Terminal strips / connectors broken or cracked
4.2.1.3 Loose wires
4.2.1.4 Components visually damaged
4.2.1.5 Capacitors leaking
4.2.1.6 Solder joints damaged or cold
4.2.1.7 Circuit board burned or de-laminated
4.2.1.8 Printed wire runs 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		100 Ohm Resistor
1		SCR firing box
1		O-Scope
1		BNC to Banana jack adapter
1		24Vdc power supply
1		120 VAC Variac
1		Resistor Box (22.1K)

6. TESTING PROCESS

6.1 Resistance Tests

6.1.1 Verify the proper resistance between each pair of points listed below:

FROM	TO	LOW LIMIT	HIGH LIMIT	Special Note:
1ACS	P1	1.314 Meg	1.342 Meg	With WP4 Jumper on
2ACS	P1	1.314 Meg	1.342 Meg	With WP4 Jumper on
3ACS	P1	1.314 Meg	1.342 Meg	With WP4 Jumper on
DCS	P1	1.314 Meg	1.342 Meg	With WP4 Jumper on
4ACS	P2	1.314 Meg	1.342 Meg	With WP3 Jumper on
5ACS	P2	1.314 Meg	1.342 Meg	With WP3 Jumper on
6ACS	P2	1.314 Meg	1.342 Meg	With WP3 Jumper on
P1	P6	1.269 Meg	1.295 Meg	
P6	P10	1.378 Meg	1.406 Meg	
P10	P5	426.8 K	435.6 K	
P5	P9	268.2 K	273.8 K	
P2	P3	1.269 Meg	1.295 Meg	
P3	P7	1.378 Meg	1.406 Meg	
P7	P4	426.8 K	435.6 K	
P4	P8	268.2 K	273.8 K	

6.2 Visual Test

6.2.1 Verify that T1F through T6F are part number 104X156DB017

6.2.2 Verify that T1R through T6R are part number 104X156DB017

6.2.3 Verify that R1, R3, R5, R7, R9 and R11 are 15-OHM 2W resistors (wire wound carbon). (Please verify wattage on resistors)

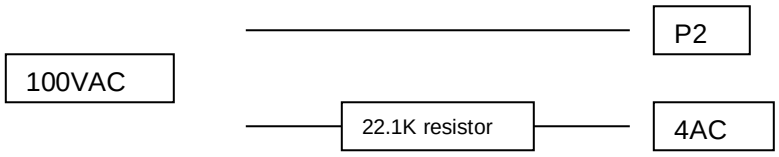
6.2.4 Verify that R13, R15, R17, R19, R21 and R23 are 15 OHM 2W resistors (wire wound carbon) (Please verify wattage on resistors)

6.3 Snubber Test

6.3.1 For the points listed below, apply 100 +/- 1 VAC through a 22.1K resistor to point A with respect to point B. Then verify a voltage drop of 68 +/- 4 VAC across the 22.1K resistor. See figure 1 for more information.

Point A	Point B	Comments
4ACS	P2	w/jumper WP3 in place
5ACS	P2	w/jumper WP3 in place
6ACS	P2	w/jumper WP3 in place
DCS	P1	w/jumper WP4 in place

Figure 1



6.3.2 For the points listed below, apply 100 +/- 1 VAC through a 22.1K resistor to point A with respect to point B. Then verify a voltage drop of 67 +/- 4 VAC across the 22.1K resistor.

Point A	Point B	Comments
1ACS	P1	w/jumper WP4 in place
2ACS	P1	w/jumper WP4 in place
3ACS	P1	w/jumper WP4 in place

6.3.3 Disconnect and remove 100VAC source.

6.4 Pulse Circuit Test

6.4.1 Connect 5PL22 to positive output of 24V dc power supply. See setup drawing on next page.

6.4.2 Connect 5PL1 to NEGATIVE non-isolated connection on SCR firing box.

6.4.3 Connect negative output of 24V dc power supply to COM on non-isolated side of SCR firing box.

6.4.4 Connect Scope to 6FPL (Common to pin 1 and Signal to pin 2).

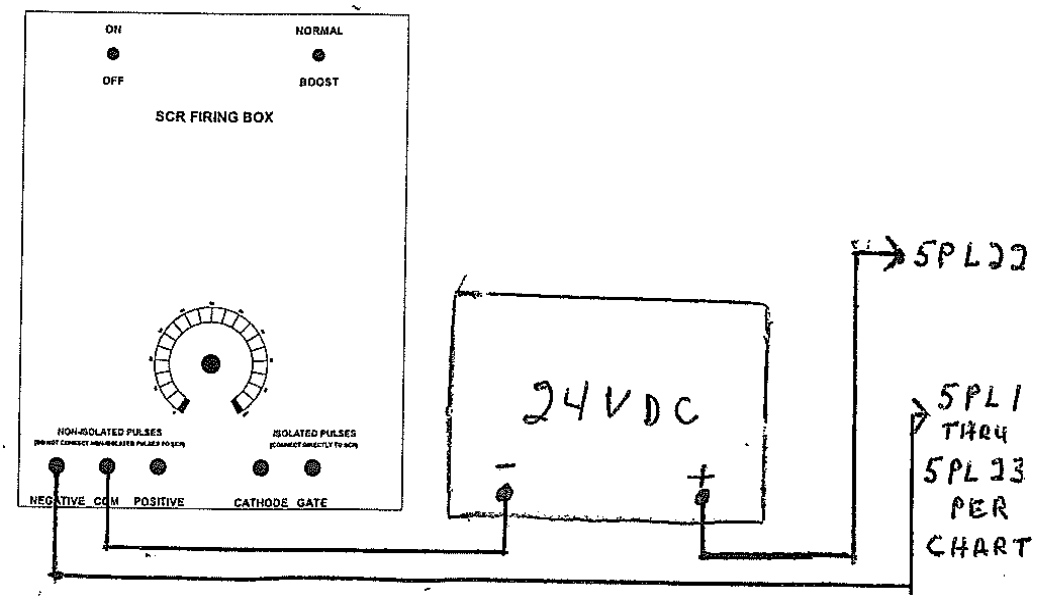
6.4.5 Set scope Vertical to 5 V/div and Horizontal to .2 mSec/div.

6.4.6 Verify SCR firing box is set to NORMAL and apply power.

6.4.7 Turn output to max and verify loaded output signal is above 10Vpp and remains steady throughout adjustment range of SCR firing box. See Figure 2 next page. Removing 100-ohm load on scope leads should allow output to increase to above 15Vpp.

6.4.8 Repeat this test for the remaining circuits using the information in table 1.

Circuit Under test	**+ 24 VDC**	**SCR Box – Firing pulse**	**Scope +**	**Scope -**
6FPL	5PL22	5PL1	6FPL2	6FPL1
5FPL	5PL22	5PL3	5FPL2	5FPL1
4FPL	5PL22	5PL5	4FPL2	4FPL1
3FPL	5PL22	5PL7	3FPL2	3FPL1
2FPL	5PL22	5PL9	2FPL2	2FPL1
1FPL	5PL22	5PL11	1FPL2	1FPL1
***1RPL**	5PL22	5PL13	1RPL2	1RPL1
***2RPL**	5PL22	5PL15	2RPL2	2RPL1
***3RPL**	5PL22	5PL17	3RPL2	3RPL1
***4RPL**	5PL22	5PL19	4RPL2	4RPL1
***5RPL**	5PL22	5PL21	5RPL2	5RPL1
***6RPL**	5PL22	5PL23	6RPL2	6RPL1



6.5 ***TEST COMPLETE ***

7. NOTES

Figure 2