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GE Energy

Functional Testing Specification

*Parts & Repair Services
Louisville, KY*

LOU-GED-DS200PCCAG8

Test Procedure for a DS200PCCAG8 power connect card

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DATE 3/14/2013	DATE	DATE	DATE 3/15/2013

Functional test procedure for a DS2000 Power Connect Card.

1. **SCOPE**

1.1 This is a functional testing procedure for a DS200PCCAG8 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

3.1.2 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 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:

Resistance values should be considered to have a 5% tolerance.

FROM	TO	LOW LIMIT	HIGH LIMIT	Special Note:
DCS	P1	1.314 Meg	1.342 Meg	With WP4 Jumper on
P1	P6	1.269 Meg	1.295 Meg	With WP4 Jumper on
P6	P10	814.7 K	831.2 K	With WP4 Jumper on
P10	P5	1.072 Meg	1.094 Meg	With WP4 Jumper on
P5	P9	568.3 K	579.7 K	With WP3 Jumper on
P2	P3	1.269 Meg	1.295 Meg	With WP3 Jumper on
P3	P7	814.7 K	831.2 K	With WP3 Jumper on
P7	P4	1.072 Meg	1.094 Meg	
P4	P8	568.3 K	579.7 K	

6.2 Visual Test

6.2.1 Verify that T1F through T6F are part number 104X156DB017.

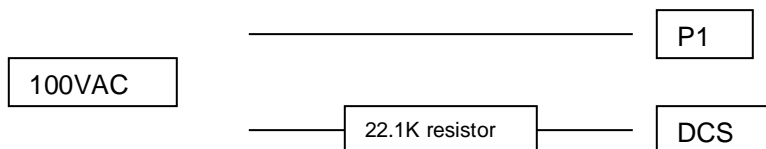
6.2.1 Verify that R1, R3, R5, R7, R9 and R11 are 15-OHM 2W resistors

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
DCS	P1

Figure 1



6.3.2 Disconnect and remove 100VAC source.

6.4 Pulse Circuit Test

6.4.1 Connect 5PL to positive output of 24V dc power supply.

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).

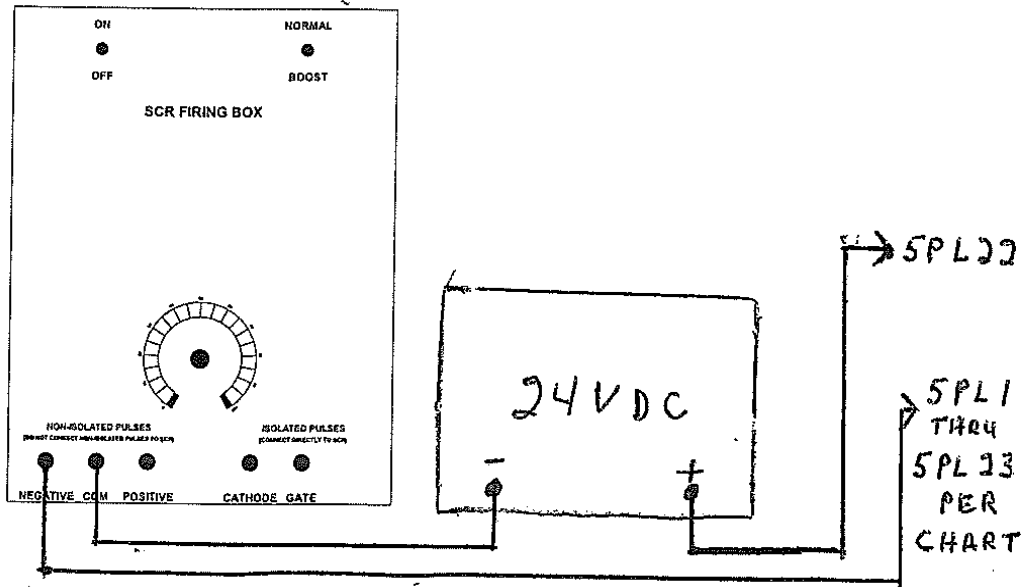
6.4.5 Set scope Vertical to 5 V/div and Horizontal to .2 mSec/div.

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



6.5 ***TEST COMPLETE***

7. NOTES

7.1 Figure 2

