



GE Energy

Functional Testing Specification

*Parts & Repair Services
Louisville, KY*

LOU-GED-DS200RTBAG5

Test Procedure for DS200RTBA cards tested on the Bench-Geneva does not work on G5

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DATE 7/21/2014	DATE	DATE	DATE 7/21/2014

Functional test procedure for DS200RTBAG5xxx cards tested on the Bench

1. SCOPE

1.1 This is a functional testing procedure for DS200RTBAG5xxx boards.

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 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 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 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	Fluke 85 or equivalent
1	Power Supply	24 VDC

6. Testing Process

6.1 Setup

6.1.1 Setup power supply to 24 VDC.

6.1.2 Set all Jumpers to 1-2 position

6.2 Test procedure

6.2.1 Make continuity checks per the following table.

CPH	CP2PL-1	<1 ohm
CPN	CP2PL-2	<1 ohm
RTB-50	OPTPL-1	<1 ohm
RTB-51	OPTPL-2	<1 ohm
RPL-1	OPTPL-2	<1 ohm
RTB-50	JP9-3	<1 ohm
JP1-2	RTB-1	<1 ohm
JP1-3	RPL-3	<1 ohm
JP2-2	RTB-8	<1 ohm
JP2-3	RPL-7	<1 ohm
JP3-2	RTB-15	<1 ohm
JP3-3	RPL-7	<1 ohm
JP4-2	RTB-22	<1 ohm
JP4-3	RPL-9	<1 ohm
JP5-2	RTB-29	<1 ohm
JP5-3	RPL-11	<1 ohm
JP6-2	RTB-36	<1 ohm
JP6-3	RPL-13	<1 ohm
JP7-2	RTB-43	<1 ohm
JP7-3	RPL-15	<1 ohm

6.2.2 Check relay operations per the following tables. On the Normally Open relays check continuity both engaged and not engaged several times.

Normally Closed Contacts			
Relay	From	To	Reading
K20	RTB-4	RTB-3	<1 ohm
K20	RTB-7	RTB-6	<1 ohm
K21	RTB-11	RTB-10	<1 ohm
K21	RTB-14	RTB-13	<1 ohm
K22	RTB-18	RTB-17	<1 ohm
K22	RTB-21	RTB-20	<1 ohm
K23	RTB-25	RTB-24	<1 ohm
K23	RTB-28	RTB-27	<1 ohm
K24	RTB-32	RTB-31	<1 ohm
K24	RTB-35	RTB-34	<1 ohm
K25	RTB-39	RTB-38	<1 ohm
K25	RTB-42	RTB-41	<1 ohm
K26	RTB-46	RTB-45	<1 ohm
K26	RTB-49	RTB-48	<1 ohm

Normally Open Relay Contact Operation Testing					
Relay	Power		Measure		
Number	24 VDC	Common	From	To	Reading
K20	RTB-1	RTB-50	RTB-2	RTB-3	open\<1 ohm
K20	RTB-1	RTB-50	RTB-5	RTB-6	open\<1 ohm
K21	RTB-8	RTB-50	RTB-9	RTB-10	open\<1 ohm
K21	RTB-8	RTB-50	RTB-12	RTB-13	open\<1 ohm
K22	RTB-15	RTB-50	RTB-16	RTB-17	open\<1 ohm
K22	RTB-15	RTB-50	RTB-19	RTB-20	open\<1 ohm
K23	RTB-22	RTB-50	RTB-23	RTB-24	open\<1 ohm
K23	RTB-22	RTB-50	RTB-26	RTB-27	open\<1 ohm
K24	RTB-29	RTB-50	RTB-30	RTB-31	open\<1 ohm
K24	RTB-29	RTB-50	RTB-33	RTB-34	open\<1 ohm
K25	RTB-36	RTB-50	RTB-37	RTB-38	open\<1 ohm
K25	RTB-36	RTB-50	RTB-40	RTB-41	open\<1 ohm
K26	RTB-43	RTB-50	RTB-44	RTB-45	open\<1 ohm
K26	RTB-43	RTB-50	RTB-47	RTB-48	open\<1 ohm

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6.3 *TEST COMPLETE *****

7. Notes

- 7.1** This is an unpopulated G2 board but the Geneva test will fail many steps if used. The G5 test on Geneva does not work at all.