



GE Energy

Functional Testing Specification

*Parts & Repair Services
Louisville, KY*

LOU-GED-DS200SBCB

Test Procedure for a

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


REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	BSC	6-1-2018
B	Revision to fixture and test	BSC	8-21-2018
C			

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DATE 6-1-2018	DATE	DATE	DATE 6-6-2018

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1. **SCOPE**

1.1 This is a functional testing procedure for a 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

3.1.2 GEK

3.1.3 DS2020BRCB folder

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	H190196	Test fixture
1		Tektronix 2 channel digital scope

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6. Modifications/Upgrades

6.1 Fill out if applicable.

7. Testing Process

7.1 Setup

- Connect board to fixture per Figure 1
- Jumper DTB1 & DTB2, JP1 (2-3), JP3 (1-2), Dip Switch (1-open, 2-8 closed). Make sure DTB switch is in the up position, and RTB and CTB are in off position.



Note:

7.2 Testing Procedure

- Apply power-verify *GREEN* LED lights, also PTB1 to PTB2 should be open, FTB1 to FTB2 should be closed.
- Turn on CTB switch.
- Verify *YELLOW* LED light comes on and PTB1 & PTB2 should now be closed.
- Verify each time the unit is enabled and not in fault that the RPL LED on the fixture is lit. If it does not it indicates the P24SW on the RPL connector is low or missing.
- Turn DTB switch off, the *RED* LED should light up. Turn DTB back on and the fault will clear. (If off more than a second or two it may cause a fault-reset it)
- Turn CTB off. Monitor voltage at DPL connector. It should be 24Vdc +/- 1. Turn CTB on and DPL will remain 24Vdc. Turn DTB back off and verify voltage drops to 13Vdc and slowly continues to drop. Turn DTB back on.
- Both the Green and Yellow LED should be on now. Pull the SHPL connector off and in 3 seconds the Red LED should light, reinstall SHPL connector.
- Verify FTB1 to FTB2 is closed and PTB1 to PTB2 is open.
- Turn off CTB and reset the fault by turning on the RTB switch and then back off.

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- Setup the scope channel 1 and 2 to 2Vdc/Div with AC coupling and 2.5ms/Div. Go into the trigger menu and set the trigger source to AC line. Move both channels to the center of screen.
- Enable unit with the CTB switch and using vertical position put CH1 and CH2 of each other. Both signals should be very close to identical. They should be 5-6 Vdc peak. See Fig. 2.
- Turn CTB off and then back on, verify the signal duty cycle starts at 100% Fig. 3 and then will reduce to just over around 5% like Fig. 2.
- Turn off AC Input, test is complete.

7.2.1

7.3 Post Testing Burn-in **Required** ☐ **Yes** ☐ **No**



Note: All MARK I, II, & III Turbine related cards require a post testing burn-in of 100 hours.

7.3.1 Apply BUS or Operational power to the card for a period of 100 hours.

7.3.2 Re-test card while warm using the above procedure.

7.4 *TEST COMPLETE *****

8. Notes

8.1 None at this time?

9. Attachments

Figure-1

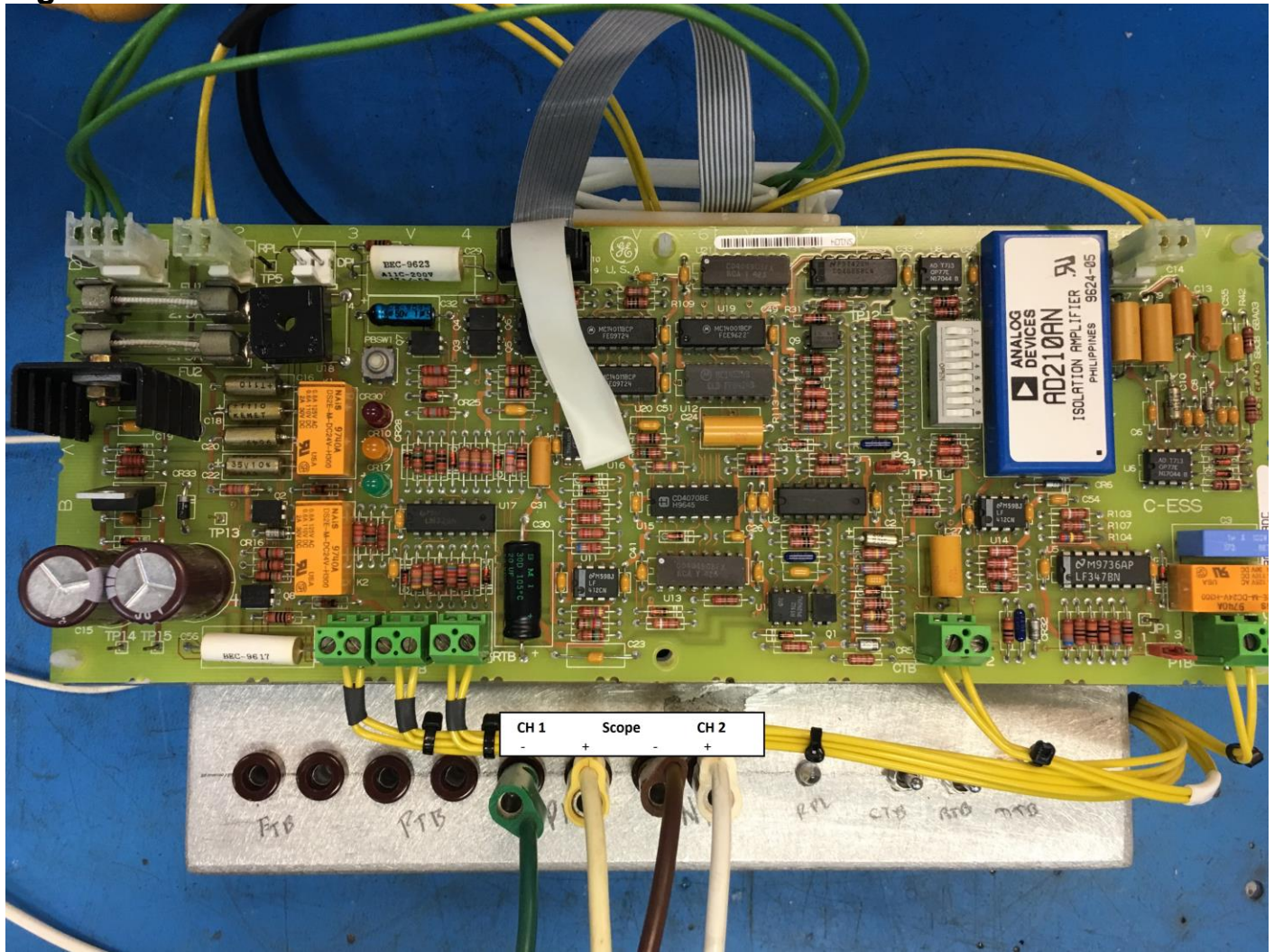


Figure 2



Figure 3

