ABB	**Functional Testing Specification**
	LOU-GED-DS200LPPA-D

Test Procedure for a DS200LPPAG1A Line Protection Card

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

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	M. Starling	10/15/2003
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C	Corrected an omission in section 6.2, updated header titles	J. Madden	2/15/2006
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PREPARED BY	REVIEWED BY	REVIEWED BY	QUALITY APPROVAL
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DATE	**DATE**	**DATE**	**DATE**
10/15/2003	9/10/2004		11/7/03

Functional test procedure for a DS200LPPAG1A Line Protection Card

1. SCOPE

1.1 This is a functional testing procedure for a DS200LPPAG1A Line Protection 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 DS2020LPPA, LPPB, LPPC Line Protection Panel Module User's Manual.

3.1.2 GE DS200LPPAG1A Documentation.

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	72-2080	TENMA Power Supply
1	72-2015 or 72-2080	TENMA Power Supply
1	H033899	DS2020LPPA340A Test Fixture

6. TESTING PROCESS

6.1 Setup

6.1.1 Connect 240 VAC 3-phase power cord to outlet. Do not apply power yet.

6.1.2 Setup TENMA dual power to output + and – 24 VDC. Connect wires marked +24 VDC, +/- 24V COM, and –24 VDC to power supply. Do not apply power yet.

6.1.3 Setup TENMA single power supply to output 0 VDC. Connect remaining RED (+/-10VDC) and BLACK (+/-10V COM) leads to supply respectfully.

6.1.4 Set jumpers on LPPA card as follows. **JP1, JP2, JP3 = 1-4, JP4 = 2-3, JP5 = 1-2, JP6, JP7 = 2-3.**

6.2 Testing Procedure

6.2.1 Verify an open between terminals E4 and E5.

6.2.2 Apply 240VAC and verify a short between terminals E4 and E5. This tests the three relays wired in series that are supposed to catch when a phase drops out. Turn off 240VAC. You are done with it.

6.2.3 Turn on both Tenma supplies.

6.2.4 Connect meter, set to measure DC volts, negative to ACOM (+/-24V COM Black lead) and positive to 1TB-1.

6.2.5 Slowly increase DC volts from 0 while watching meter until supply reads +10 VDC. Do not exceed 10 VDC input. Output should be approx. 8.5VDC +/-.5V. Return power supply to 0 VDC.

6.2.6 Move positive meter lead to 1TB-2 and repeat process above.

6.2.7 Switch negative and positive 10VDC leads on single power supply.

6.2.8 Repeat above steps for 1TB-1 and 1TB-2, verifying that the output will go to Negative 8.5VDC +/-.5V on 1TB-1 ONLY. 1TB-2 will go POSITIVE again, just as it did in step 6.2.5. Do not exceed –10 VDC input. Return power supply to 0 VDC.

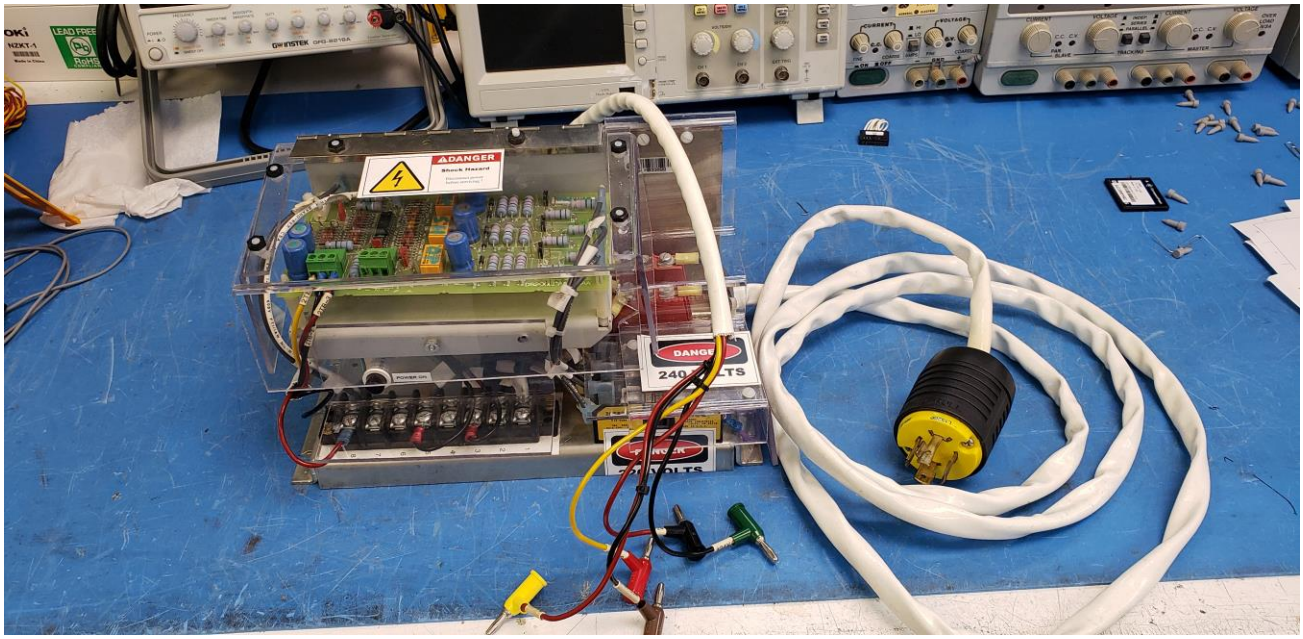
6.2.9 Turn off both DC power supplies.

6.3 ***TEST COMPLETE ***

7. NOTES

7.1 If unit fails open-short tests at E4 and E5 replace Caps C1-C3, C30, & C32 before continuing with troubleshooting. These caps are high failure items. They have a problem with leakage & shorting out.

7.2 Image of Test fixture


DANGER
Shock Hazard