



GE Energy

Functional Testing Specification

Parts & Repair Services
Louisville, KY

LOU-GED-IS200DTRTH1A

Test Procedure for any IS200DTRTH1A MK VI terminal card

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

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	J. Francis	09/13/2011
B			
C			
D			

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DATE 09/13/2011	DATE	DATE	DATE 9/13/2011

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1. SCOPE

- 1.1 This is a functional testing procedure Test Procedure for an IS200DTRTH1A MK VI terminal 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 N:\Design Folders\IS2\IS200D

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 70III Multimeter or equivalent
1		ID chip programmer PC

6. TESTING PROCESS

6.1 Testing Procedure

6.1.1 Initial visual inspection of card: Look the card over very closely. These cards can arrive in the full range of conditions, from clean and excellent to filthy and corroded. Some even have physical damage from burns and/or impacts with other objects. Some will be missing components. An area of particular concern is JR1 and TB1.

6.1.2 Verification of ID Chip (Hyperterminal): When you visually inspected the card, you should also have taken note of the complete model and serial numbers on the card. It's a good thing to write them down, take the card over to the Chip ID programmer PC and call up the Main Menu, then select ID Prom Programmer, then go through the menus until you find the one for your card. Follow the directions it gives you.

6.1.3 Point to Point Verification of Traces



Note: Board orientation for this portion of test is component side of board UP, with TB1 closest to you.

6.1.3.1 Check the following point to point connections for lower than 10 Ohms of resistance:

<u>From:</u>	<u>To:</u>
TB1-1	C8 – Right Side
TB1-2	C8 – Right Side
TB1-3	C6 – Right Side
J3 Shield (metal covering)	C6 – Left Side
J1 Shield (metal covering)	C6 - Left Side
J2 Shield (metal covering)	C8 - Left Side
J3-37	J1-37
J3-36	J1-26
J3-8	J2-30
J3-7	J2-29
J3-6	J2-28
J3-5	J1-30
J3-4	J1-29
J3-3	J1-28

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C3 - Positive (Right Side)	C4 – Right Side
C3 - Positive (Right Side)	D1 – Anode (Left Side)
C3 - Positive (Right Side)	J1-1
C3 - Positive (Right Side)	J1-18
C1 - Positive (Right Side)	C1 – Right Side
C1 - Positive (Right Side)	D2 – Anode (Left Side)
C1 - Positive (Right Side)	J2-1
C1 - Positive (Right Side)	J2-18
C5 - Positive (Right Side)	C7 – Right Side
C5 - Positive (Right Side)	D1 – Cathode (Right Side)
C5 - Positive (Right Side)	D2 – Cathode (Right Side)
C5 - Positive (Right Side)	J3-1
C5 - Positive (Right Side)	J3-18
J1-33	J1-21
J1-33	J1-17
J1-33	J1-7
J1-33	J1-8
J1-33	J1-9
J1-33	J1-10
J1-33	J1-11
J1-33	J1-12
J1-33	J1-2
J1-33	J1-3
J1-33	J1-4
J1-33	J2-21
J1-33	J2-17
J1-33	J2-7
J1-33	J2-8

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J1-33	J2-9
J1-33	J2-10
J1-33	J2-11
J1-33	J2-12
J1-33	J2-2
J1-33	J2-3
J1-33	J2-4
J1-33	J2-33
J1-33	J3-21
J1-33	J3-17
J1-33	J3-2
J1-33	C3 – Negative (Left Side)
J1-33	C1 – Negative (Left Side)
J1-33	C5 – Negative (Left Side)
J1-33	C4 – Left Side
J1-33	C2 – Left Side
J1-33	C7 – Left Side

6.1.4 Diode Checks

6.1.4.1 Set Multimeter for Diode checking function.

6.1.4.2 Place positive lead of Multimeter on D1 Anode (Left Side) and negative lead on D1 Cathode (Right Side). Reading should be 0.46 VDC +/- 0.1 VDC.

6.1.4.3 Place positive lead of Multimeter on D2 Anode (Left Side) and negative lead on D2 Cathode (Right Side). Reading should be 0.46 VDC +/- 0.1 VDC.

6.1.5 Capacitor Checks

6.1.5.1 Set Multimeter for Resistance checking function.

6.1.5.2 Place positive lead of Multimeter on Left Side of C3 and negative lead on Right Side of C3. Reading should be >500K Ohms.

6.1.5.3 Place positive lead of Multimeter on Left Side of C4 and negative lead on Right Side of C4. Reading should be >500K Ohms.

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6.1.5.4 Place positive lead of Multimeter on Left Side of C1 and negative lead on Right Side of C1. Reading should be >500K Ohms.

6.1.5.5 Place positive lead of Multimeter on Left Side of C2 and negative lead on Right Side of C2. Reading should be >500K Ohms.

6.1.5.6 Place positive lead of Multimeter on Left Side of C5 and negative lead on Right Side of C5. Reading should be >500K Ohms.

6.1.5.7 Place positive lead of Multimeter on Left Side of C7 and negative lead of Multimeter on Right Side of C7. Reading should be >500K Ohms.

6.1.5.8 Place positive lead of Multimeter on Left Side of C8 and negative lead of Multimeter on Right Side of C6. Reading should be >500K Ohms.

6.1.5.9 Place positive lead of Multimeter on Left Side of C6 and negative lead of Multimeter on Right Side of C6. Reading should be >500K Ohms.

6.2 *TEST COMPLETE *****

7. ATTACHMENTS

7.1 None at this time.