



GE Energy

Functional Testing Specification

Parts & Repair Services
Louisville, KY

LOU-GED-IS200TDBS

Test Procedure for an IS200TDBS Mark VIe Terminal Card

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PREPARED BY J. Francis	REVIEWED BY	REVIEWED BY	QUALITY APPROVAL <i>Charlie Wade</i>
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1. SCOPE

1.1 This is a functional testing procedure for an **IS200TDBS** MARK VIe 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 Check 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, 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	H188922	Mark VIe Simplex Test Rack with computer
1	*	Fluke 87 Digital Multimeter or equivalent

6. TESTING PROCESS

6.1 Static Checks

6.1.1 Using Fluke 87 Digital Multimeter or equivalent, set for Resistance function, check for, and replace, shorted MOV's and Rectifiers before installing unit into test rack.

6.1.2 Remove all Fuses and check for correct value and any defects.

6.2 Functional Testing Procedure



Note: The following portions of the test assume you are familiar with using ToolboxST. You will need to perform downloads at least twice for UUT to be setup fully. You must also wait for approximately 3 minutes in between downloads for rack and UUT to reboot.

6.2.1.1 Turn off Rack Power switch.

6.2.1.2 Install unit to be tested into Mark VIe Simplex test rack.

6.2.1.3 Turn on Rack Power switch. Wait for approximately 3 minutes for rack to boot.

6.2.1.4 Open **ToolboxST** and open "**UCSAH1_Simplex_VIe**" by double-clicking on it. Go online with ToolboxST.

6.2.1.5 Click on the "**HARDWARE**" tab, this will show you all of the modules setup in the rack under the "Distributed IO" icon. The PDIO module should have a red circle with an X through it, indicating no communications.

6.2.1.6 Double click on the "X" on the PDIO Module. This will bring up a configuration box to enter the serial number of the UUT and hardware form. Click "OK" button when done.

6.2.1.7 From the menu, Download Controller Setup by going to **Device->Download->Download Wizard**. Follow instructions in dialog boxes that follow.

6.2.1.8 After rack has rebooted, go online and verify that the "PDIO" module does not have the red "X" anymore.

6.2.1.9 Once online, select the "**HARDWARE**" tab. Under the "**Distributed I/O**" icon click on the "+" icon to the left of the "**Simplex**" icon. This will list the modules installed.

6.2.1.10 Highlight the "**PDIO**" module. Click on the "**Variables**" tab to the right. This should show a list of values, including Fuse01Fdbk through Fuse12Fdbk at the bottom. Initially, these values should all be "**FALSE**", indicating good Fuse status.

6.2.1.11 One at time, remove the fuse cap for each Fuse, making sure that the corresponding value changes to "**TRUE**", indicating bad Fuse status.

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6.2.1.12 Reinstall the fuse cap for each Fuse, making sure the corresponding value changes back to “FALSE”, indicating good Fuse status.

6.2.1.13 Click on the “**OUTPUTS**” tab next to the “**VARIABLES**” tab. Verify that all of the values listed are “FALSE”.

6.2.1.14 Click on the “**INPUTS**” tab next to the “**OUTPUTS**” tab. All of the odd numbered “Contact Input” values should be “TRUE”. All of the even numbered “Contact Input” values should be “FALSE”. Also, at this time all of the “RelayxxFdbk” values should be “FALSE”.

6.2.1.15 Click on the “**OUTPUTS**” tab. Double-click on each of the “Live Values” values. This should bring up a dialog box. Click on the “Toggle Value” button, you should be able to hear the corresponding Relay engage. Then click on the “Send & Close” button. Dialog box disappears.

6.2.1.16 Click on the “**INPUTS**” tab next to the “**OUTPUTS**” tab. All of the odd numbered “Contact Input” values should be “FALSE”. All of the even numbered “Contact Input” values should be “TRUE”. Also, at this time all of the “RelayxxFdbk” values should be “TRUE”.

6.2.2 Burn-In Process

6.2.2.1 After letting unit run in test rack for 48 hours, repeat steps 6.2.1.6 through 6.2.1.12.

6.3 *TEST COMPLETE*****

7. NOTES

7.1 Live View screens will be forthcoming and tests will be amended as needed.

7.1.1 H2A cards are 24V

7.1.2 H4A cards are 48V

7.1.3 H6A cards are 125V

8. ATTACHMENTS

8.1 None at this time.