



GE Energy

Functional Testing Specification

Parts & Repair Services
Louisville, KY

LOU-GED-DS200CSSA

Test Procedure for a DS200CSSA

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

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	M. Starling	08/18/2011
B			
C			

© COPYRIGHT GENERAL ELECTRIC COMPANY

Hard copies are uncontrolled and are for reference only.

PROPRIETARY INFORMATION – THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF GENERAL ELECTRIC COMPANY AND MAY NOT BE USED OR DISCLOSED TO OTHERS, EXCEPT WITH THE WRITTEN PERMISSION OF GENERAL ELECTRIC COMPANY.

PREPARED BY
M. Starling

REVIEWED BY


REVIEWED BY


QUALITY APPROVAL

DATE
08/18/2011

DATE

DATE


DATE
8/19/2011

LOU-GED-DS200CSSA REV. A	 GE Energy <i>Parts & Repair Services</i> <i>Louisville, KY</i>	Page 2 of 4
---	--	--------------------

1. SCOPE

1.1 This is a functional testing procedure for a DS200CSSA Cell State Sensor 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		O-scope
1		Supplies P5, P15, N15, P24, N24
1	H188819	3-Phase Variac
1	H188649	Supply for SQPL Power
1		Function Generator
1		CSSA Test Kit

<p>LOU-GED-DS200CSSA REV. A</p>	<p>g</p> <p>GE Energy Parts & Repair Services Louisville, KY</p>	<p>Page 3 of 4</p>
-------------------------------------	--	--------------------

6. Modifications/Upgrades

6.1 Check Orange Book for any modifications or upgrades.

7. Testing Process

7.1 Special Note:

7.1.1 This procedure was verified using a DS200CSSAG1A card.


If you are testing a DS200CSSAG1B model be sure to verify procedure.

7.2 Setup

- 7.2.1 Do not apply power to any of the following equipment at this time. Prior to starting test remove the PLD chip U3 from the socket and verify programming against a known good chip or stored algorithm.
- 7.2.2 Connect the cable in CSSA test kit marked as follows, from A, B, C and D on 3-phase Variac to P1, P2, T1A, T1B, T2A, T2B, T3A and T3B on the UUT. Turn percentage dial on Variac to 0%. Connect source side of Variac to a 240 volt 3-Phase outlet. The connection to 3-Phase power must have a Neutral. *NOTE: At no time in this test will the output on the Variac be brought above 50 VAC or 20% on the Variac output dial.*
- 7.2.3 Connect the cable in test kit marked TB3-2PL to the 2PL connector on UUT connect the banana connectors to their respective DC supply voltages as marked on the connectors and jumper all commons.
- 7.2.4 Set up a function generator to output a TTL pulse at 60Hz with a 50% duty cycle and no DC offset. Connect the positive side of the output to Pin 27 on the ribbon cable connector in the CSSA test kit. Connect the common to the power supply common.
- 7.2.5 Set up an O-scope to monitor test point IPL7 – TP7 on UUT and connect O-scope common to common on power supplies.
- 7.2.6 Connect SQPL supply H188649 to SQPL connector on UUT
- 7.2.7 Connect a Mini-grabber from Pin 16 on ribbon cable connector and connect the other side to common on power supplies. Connect a Mini-Grabber from Pin 17 on ribbon cable connector and connect the other side to 5 VDC on power supplies. Connect the 40 Pin ribbon cable to 1PLD connector on the UUT.

7.3 Testing Procedure

- 7.3.1 Turn on DC power supplies and SQPL power supply.

LOU-GED-DS200CSSA REV. A	 GE Energy <i>Parts & Repair Services</i> <i>Louisville, KY</i>	Page 4 of 4
---	--	--------------------

- 7.3.2** Check for 15 VDC across zener diodes D1, D2, D3 and D4 located close to the isolation transformers in the two isolated sections.
- 7.3.3** Check for 5 VDC across capacitors C1 and C4 located in the same area as above.
- 7.3.4** Turn on 240 volt power to the Variac and position the dial to 20%. If this a CSSAG1A revision check to see if all of the CSTAT transmitters are illuminated.
- 7.3.5** Check for 5 VDC at P5-TP6 and DCOM-TP5
- 7.3.6** Turn on the function generator. Cycle power to the 5 VDC supply.
- 7.3.7** You should now see a pulse stream on the O-scope. Turn the dial on the Variac to 0%. The signal should now be a low on the O-scope. Turn the Variac back up to 20%. The pulse stream should return.

7.4 Post Testing Burn-in **Required** x **Yes** **No**



Note: Allow unit to run 30 minutes to verify no heat related issues.

7.5 *TEST COMPLETE *****

8. Notes

8.1 None at this time.

9. Attachments

9.1 None at this time.