GE Energy *Parts & Repair Services* *Louisville, KY*	**Functional Testing Specification** **LOU-GED-IS200ISBExxxx**

Test Procedure for an IS200ISBExxxx.

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

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release. Covers H2 versions of the card. Factory test copied into this format.	J. Francis	06/21/2018

PREPARED BY	REVIEWED BY	REVIEWED BY	QUALITY APPROVAL
J. Francis			
DATE	**DATE**	**DATE**	**DATE**
06/21/2018			

1. SCOPE

1.1 This is a functional testing procedure for an **IS200ISBExxxx 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		Fluke 87 DMM (or Equivalent)
1		Tenma Dual Output Power Supply (or Equivalent)

5.2 TESTING PROCESS

ISBE Testing

I. Input the 24 VDC on P3-1,2 and verify P5 output (U2-3 to U2-4) and that the Power On LED is lit.

II.

A. Input the 24 VDC on P2-1,2 and adjust the 24 volt input from 0.0 volts DC up to 24 VDC and measure the voltage at which the LED turns on. Also verify the operation of the "Interlock Active" LED.

B. Input the 24 VDC on P2-1,2 and adjust the 24 volt input from 24 volts DC down to 0.0 VDC and measure the voltage at which the relay de-energizes.

C. Input the 24 VDC on P1A-7,8 and adjust the 24 volt input from 0.0 volts DC up to 24 VDC and measure the voltage at which the relay energizes.

D. Input the 24 VDC on P1A-7,8 and adjust the 24 volt input from 24 volts DC down to 0.0 VDC and measure the voltage at which the relay de-energizes.

III. Inject a 2 to 4 MHz RS485 compatible signal (7 V_{p-p}) on P1A-1,2.

A. With the interlock closed (24 VDC at P1-1,2 and JP1 in 2,3) the output will be at Fiber Optic output (U9). We will be measuring to see that the level at the end of a 200' fiber optic cable is greater than -12 dBm. Also verify the operation of the "XMIT Data In" LED.

B. With the interlock open (JP1 in 1,2)there should be no output waveform on U9.

IV. Inject a 2 to 4 MHz RS485 (7 V_{p-p}) compatible signal on P1B-3,6.

A. With the interlock closed the output will be at Fiber Optic output (U9). We will be measuring to see that the level at the end of a 200' fiber optic cable is greater than -12 dBm. Also verify the operation of the "XMIT Data In" LED.

B. With the interlock open there should be no output waveform on U9.

I.	P5 Level	LED Lights (Y/N)
IIA.	Pickup Voltage:	LED Lights (Y/N):
IIB.	Dropout Voltage:	
IIC.	Pickup Voltage:	
IID.	Dropout Voltage:	
IIIA.	P1A-1,2 voltage:	
	Fiber Output Level:	LED Lights (Y/N):
IIIB.	P1B-1,2 voltage:	
	Fiber Output Waveform:	
IVA.	Fiber Output Level:	
	P1B-3,6 voltage:	
	IVB. Fiber Output Waveform:	

*5.3 ***TEST COMPLETE ****

7. NOTES

7.1 None at this time.

8. ATTACHMENTS

8.1 None at this time.