g GE Industrial Systems	**Functional Testing Specification**
Renewal Services ***Louisville,KY***	**LOU-GED-DS200ISCA-A**

Test Procedure for a Card

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

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Functional test procedure for a DS200ISCAG1A Starter Control Card

1. SCOPE

1.1 This is a functional testing procedure for a DS200ISCAG1A 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** This test procedure.
- **3.1.2** DS200ISCAG1A schematics.

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		Tenma - Duel Power Supply
1		120 Volt 40 watt Light Bulb Load
1		26 Position Breakout Card
1		DS200ISCAG1A Test Box

6. TESTING PROCESS

6.1 Setup

6.1.1 Connect 26 pin ribbon cable from IOPL to 26 position breakout card.
NOTE: This unit has the pins on IOPL connector configured normally, make sure that pin 1 at IOPL connector is equal to pin 1 on breakout card or caps will explode!!!

6.1.2 Place Tenma power supply in SERIES mode and setup to output +24 and –24 Volts DC. Connect the negative side of –24 volts to IOPL-17. Connect the positive side of the +24 Volts to IOPL-1. Center Common is not connected yet. Turn off Power Supply.

6.1.3 Connect SxPL connector from Test Box to S1PL. Connect from Center Common on Power Supply to COM on Test Box. Connect Positive 24 Volts from Power Supply to +24 on test box. Connect DVM set to read DC Volts to METER OUT on Test Box. Insert Yellow and Purple Clip Leads respectfully into TO IOPL connectors on Test Box. Connect leads from Test Box marked, LIGHT BULB LOAD across a 120 VOLT 40 Watt light bulb. Connect 120 Volts AC line to CP1PL or CP2PL connector. But do not energize yet.

6.1.4 Make sure switch on Test Box is in center position. Connect Purple lead from Test Box to IOPL-8. Apply power to Tenma Power Supply. Apply 120 Volt AC Power.

6.1.5 Check to see if LED DS8 is illuminated. DC Meter should read 48 VDC. Remove 120 Volt supply.

6.1.6 Make connections, apply 120 Volt AC and perform checks per following chart.
NOTE: Meter reading of 0 Volts is Approx., should be <3 VDC.

SxPL	PURPLE LEAD	YELLOW LEAD	SWITCH	LIGHT BULB	LED ON	METER VOLTS
S1PL	IOPL-18	IOPL-19	RELAY / BULB	ON	DS12	0 Volts
			ISO / METER	OFF	DS1	48 Volts
S2PL	IOPL-2	IOPL-20	RELAY / BULB	ON	DS15	0 Volts
			ISO / METER	OFF	DS5	48 Volts
S3PL	IOPL-3	IOPL-21	RELAY / BULB	ON	DS11	0 Volts
			ISO / METER	OFF	DS3	48 Volts
S4PL	IOPL-4	IOPL-22	RELAY / BULB	ON	DS14	0 Volts
			ISO / METER	OFF	DS7	48 Volts
S5PL	IOPL-5	IOPL-23	RELAY / BULB	ON	DS10	0 Volts
			ISO / METER	OFF	DS2	48 Volts
S6PL	IOPL-6	IOPL-24	RELAY / BULB	ON	DS13	0 Volts
			ISO / METER	OFF	DS6	48 Volts
S7PL	IOPL-7	IOPL-25	RELAY / BULB	ON	DS9	0 Volts
			ISO / METER	OFF	DS4	48 Volts

6.1.7 Remove all power and connections from card.

6.1.8 ***END OF TEST***

7. NOTES

8. Oscilloscope Verification Examples:

Fig. 1

Fig. 2