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GE Industrial Systems

Functional Testing Specification

*Renewal Services
Louisville, KY.*

LOU-GED-193X527xx

Test Procedure for: 193X527XXG01

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

| REV. | DESCRIPTION | SIGNATURE | REV. DATE |
|------|-----------------|--------------------------|-----------|
| A | Initial release | <i>Jeffrey D. Barton</i> | 3/17/2021 |
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| DATE 3/17/2021 | DATE | DATE | DATE 07/02/02 |

Functional test procedure for a **193X527XXG01** Interface Card.

1. SCOPE

1.1 This is a functional testing procedure for a Valutrol Interface 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

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 | | Reversible Valutrol Drive |
| 1 | | Oscilloscope |
| 1 | | Oscilloscope Probe |
| | | |
| | | |

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6. TESTING PROCESS

6.1 Setup

6.1.1 Connect Jumper from: CC to COM

6.1.2 Connect Jumper from: NT to CEMF

6.1.3 Install unit (IFC) in test system.

6.1.4 Connect all labeled interface wires:

6.1.4.1 FT1

6.1.4.2 FT2

6.1.4.3 RN

6.1.4.4 RP

6.1.4.5 PRE

6.1.4.6 COM

6.1.5 Connect firing pulse interfaces:

6.1.5.1 White wire to: IN

6.1.5.2 Red wire to: IP

6.2 Testing Procedure

6.2.1 Connect Oscilloscope to LR and COM on MCC.

6.2.2 Adjust Oscilloscope to 5mS/DIV and 5V/DIV. and DC setting.

6.2.3 Release E-STOP button.

6.2.4 Using Diag. Card, switch from neutral to Static, (move switch to left).

6.2.5 Using SPEED REF. Pot, adjust LR for 0Vdc.

6.2.6 Connect Oscilloscope to CFB and COM on MCC.

6.2.7 Using CFB pot on Diag. Card, adjust CFB to 0Vdc.

6.2.8 Using Diag. Card, switch from Static to neutral (move to center position).

6.2.9 Connect Oscilloscope to VFB and COM on MCC.

6.2.10 Using Diag. Card, switch from neutral to RUN, (move to right position).

6.2.11 Using SPEED REF. pot rotate CW, (REVERSE Direction) and verify ALL (approx. 10 pulses are visible and amplitude adjusts to approximately to 10Vpp at maximum speed accordingly per SPEED REF. pot. (Approx. 10 pulses will be visible at this Oscilloscope setting). **See Fig. 1 in Oscilloscope Verification Examples.**

6.2.12 Using SPEED REF. pot rotate CCW, (FORWARD Direction) and verify ALL (approx. 10) pulses are visible and amplitude adjusts to approximately to 10Vpp

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at maximum speed accordingly per SPEED REF. pot. **See Fig. 2 in**

Oscilloscope Verification Examples.

- 6.2.13** Return SPEED REF. pot back to centered position so that all pulses disappear, (centered zero position).
- 6.2.14** Using Diag. Card, switch from Static to neutral (move to center position).
- 6.2.15** On Operator Station, verify switch is in the Forward position on Direction switch.
- 6.2.16** On Operator Station, switch to RUN position.
- 6.2.17** Adjust SPEED pot CW, on Operator Station and verify ALL pulses are visible and amplitude adjusts to approximately to 10Vpp at maximum accordingly per SPEED pot. **See Fig. 1 in Oscilloscope Verification Examples.**
- 6.2.18** Return SPEED pot CCW to 0.
- 6.2.19** On Operator Station, move switch to the Reverse position on Direction switch.
- 6.2.20** Adjust SPEED pot CW, on Operator Station and verify ALL pulses are visible and amplitude adjusts to approximately to 10Vpp at maximum accordingly per SPEED pot. **See Fig. 2 in Oscilloscope Verification Examples.**
- 6.2.21** Return SPEED pot on Operator Station back so that all pulses disappear, (zero position).
- 6.2.22** On Operator Station, switch to STOP position.
- 6.2.23** Engage E-STOP Button.

6.3 *TEST COMPLETE*****

- 7. **NOTES:** May be necessary to adjust MCC and FCC to initial test pot settings if UUT reaches its highest output and drops out indicating a failure.

8. Oscilloscope Verification Examples:

Fig. 1
Forward Direction

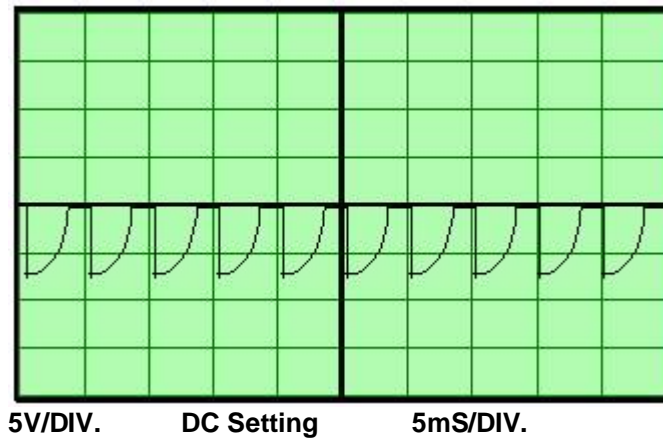


Fig. 2
Reverse Direction

