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GE Industrial Systems

Functional Testing Specification

*Renewal Services
Louisville, KY.*

LOU-GED-AF300xx

Test Procedure for a AF300E\$, AF300G11 or AF300P11 Drive

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A	Initial release	<i>David Bush</i>	7/23/2002
B	Added section 6.1.2, recommended part replacement	C. Wade	9/2/2011
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Functional test procedure for AF300E\$, AF300G11 or AF300P11

1. SCOPE

1.1 This is a functional testing procedure for a AF300xx

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 **GEI-100211**

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		AC Motor
1		Fluke 85 DMM (or equivalent)

6. TESTING PROCESS

6.1 Setup

- 6.1.1** Reference all shop manuals on the AF300E\$ Drives.
- 6.1.2** Special Note on recommended part replacement: This information was pulled from Service Manual. Be sure to change cooling fan out on all units that come in for repair.

Part name	Standard period for replacement	Comments
Cooling fan	3 years	Exchange for a new part
Smoothing capacitor	5 years	Exchange for a new part (determine after checking)
Electrolytic capacitor on the PC board	7 years	Exchange for a new PC board (determine after checking)
Fuse	10 years	Exchange for a new part
Other parts		Determine after checking

6.2 Testing Procedure

- 6.2.1** Wire incoming AC power to drive connections L1 L2 and L3.
- 6.2.2** Wire in AC motor to connections U V and W on the Drive.
- 6.2.3** Apply proper input voltage.
- 6.2.4** Verify the Drive is powered up by observing a flashing 60.00HZ. display on the keypad.
- 6.2.5** With a DMM check for proper AC voltage across the three phase incoming power at L1, L2, and L3.
- 6.2.6** With a DMM check for voltage at the motor connections U, V, and W.
- 6.2.7** Using the manual, go thru all Function Code Descriptions and set each to the factory default listed in the manual. NOTE: Function can be changed while the Drive is operating.
- 6.2.8** Push RESET on the keypad. Now push RUN on the keypad and observe the Drive ramping up to run at the set Frequency (60Hz)
- 6.2.9** Verify the motor operation is smooth.
- 6.2.10** Consult the manual to perform additional test on various different operating procedures the Drive is capable of performing. i.e. Reverse direction, different input controls(0-10V or 4-20mA) etc....

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6.2.11 Disconnect all power.

6.3 *****TEST COMPLETE*****

7. **NOTES**

7.1 None at this time.