g GE Industrial Systems	**Functional Testing Specification**
Renewal Services ***Louisville,KY***	**LOU–GED-DS3820WCGx**

Test Procedure for a water Cooled GTO Assembly

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Functional test procedure for a Water Cooled GTO Assembly

1. SCOPE

1.1 This is a functional testing procedure for a Water Cooled GTO Assembly.

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		Fluke 85 DMM (or Equivalent)
1		2215A OSCILLOSCOPE, WITH 100X SCOPE PROBES
1	HO33633	TEST FIXTURE

6. TESTING PROCESS

6.1 Setup

6.1.1 INSTALL POWER SUPPLY MARKED DS3800NHFAIKIH INTO FIXTURE HO33633.

✍ **Note:**

6.2 Testing Procedure

6.2.1 INSTALL GTO INTO FIXTURE HO33633.

6.2.2 HOOK LARGE BLACK ALLIGATOR CLIP TO GC (CATHODE) ON GTO.

6.2.3 HOOK RED LEAD TO GA (ANODE) ON GTO.

6.2.4 HOOK CABLE MARKED CAC2 TO CAC2.

6.2.5 HOOK CABLE MARKED CAC1 TO CAC1.

6.2.6 HOOK UP FIBER OPTIC CABLES (COLOR CODED FOP PROPER INSTALLATION.

6.2.7 SCOPE SETUP. CH1. 1 VOLT/DIV. CH2. 1 VOLT/DIV. BOTH, ADD, INVERT IN

6.2.8 USE X100 PROBES. HOOK SCOPE CH1 TO RESISTOR ON THE BACK OF FIXTURE MARKED TP1.

6.2.9 SCOPE CH2 TO RESISTOR MARKED TP2.

6.2.10 PULL ESTOP OUT.

6.2.11 TURN ON LOAD.

6.2.12 TURN ON DC SUPPLY.

6.2.13 TURN ON FIBER OPTICS.

6.2.14 TURN ON CHOPPER SUPPLY.

6.2.15 ON DS3800NTGE BOARD CHECK FROM N15V TO LCOM FOR – 15 VOLTS DC WITH A DVM. ADJUST R40 IF NEEDED.

6.2.16 VERIFY ON SCOPE APPROX 150 VOLT AT 1.4 MS.

6.2.17 TO TURN CHOPPER SUPPLY OFF

6.2.18 TURN OFF DC SUPPLY, WAIT FOR DC VOLTAGE TO BLEED OFF.

6.2.19 TURN OFF CHOPPER SUPPLY, FIBER OPTICS, LOAD AND PUSH E STOP IN.

6.3 ***TEST COMPLETE ***

7. NOTES

8. Oscilloscope Verification Examples:

100 VOLTS/DIV
.5MS/DIV

Fig. 1

Fig. 2