g GE Energy	**Functional Testing Specification**
Parts & Repair Services ***Louisville, KY***	**LOU-GED-DS3800XTIA**

Test Procedure for a DS3800XTIA

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

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	Steve Pharris	6/1/2011
B	Added voltage table to step 6.2.2	Steve Pharris	7/29/2013
C			

PREPARED BY	REVIEWED BY	REVIEWED BY	QUALITY APPROVAL
Steve Pharris			Charlie Wade
DATE	**DATE**	**DATE**	**DATE**
6/1/2011			6/10/2011

1. SCOPE

1.1 This is a functional testing procedure for a DS3800XTIA.

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	H188501	Omega Digital Thermometer
1		Tenma Power Supply
1	H188703	Sencore LC103

6. Testing Process

6.1 Setup

6.1.1 Set power supply for 15VDC.

6.1.2 Connect 15VDC to JA15 and Com to JA16.

6.1.3 Place temperature probe between terminal strips

6.1.4 Apply power to card and allow setup to warm up for 5 minutes.

6.1.5 Set jumpers to “L” position

6.1.6 Connect DMM to JA19 with Com to JA20

6.2 Testing Procedure

6.2.1 Measure ambient temperature.

6.2.2 Adjust R1 until the voltage measured corresponds to the voltage listed in table below

°C TEMP.	MILLIVOLTS	°C TEMP.	MILLIVOLTS	°C TEMP	MILLIVOLTS
30.0	24.559	27.9	24.389	25.9	24.227
29.9	24.551	27.8	24.381	25.8	24.219
29.8	24.543	27.7	24.373	25.7	24.211
29.7	24.535	27.6	24.365	25.6	24.203
29.6	24.527	27.5	24.357	25.5	24.195
29.5	24.519	27.4	24.349	25.4	24.187
29.4	24.511	27.3	24.341	25.3	24.179
29.3	24.503	27.2	24.332	25.2	24.170
29.2	24.494	27.1	24.324	25.1	24.162
29.1	24.486	27.0	24.316	25.0	24.154
29.0	24.478	26.9	24.308	24.9	24.146
28.9	24.470	26.8	24.300	24.8	24.138
28.8	24.462	26.7	24.292	24.7	24.130
28.7	24.454	26.6	24.284	24.6	24.122
28.6	24.446	26.5	24.276	24.5	24.114
28.5	24.438	26.4	24.268	24.4	24.106
28.4	24.430	26.3	24.260	24.3	24.098
28.3	24.422	26.2	24.251	24.2	24.089
28.2	24.413	26.1	24.243	24.1	24.081
28.1	24.405	26.0	24.235	24.0	24.073
28.0	24.397				

°C TEMP	MILLIVOLTS	°C TEMP	MILLIVOLTS
23.9	24.065	18.9	23.660
23.8	24.057	18.8	23.652
23.7	24.049	18.7	23.644
23.6	24.041	18.6	23.636
23.5	24.033	18.5	23.628
23.4	24.025	18.4	23.620
23.3	24.017	18.3	23.612
23.2	24.008	18.2	23.604
23.1	24.000	18.1	23.595
23.0	23.992	18.0	23.587
22.9	23.984	17.9	23.579
22.8	23.976	17.8	23.571
22.7	23.968	17.7	23.563
22.6	23.960	17.6	23.555
22.5	23.952	17.5	23.547
22.4	23.944	17.4	23.539
22.3	23.936	17.3	23.531
22.2	23.927	17.2	23.523
22.1	23.919	17.1	23.514
22.0	23.911	17.0	23.506
21.9	23.903	16.9	23.498
21.8	23.895	16.8	23.490
21.7	23.887	16.7	23.482
21.6	23.879	16.6	23.474
21.5	23.871	16.5	23.466
21.4	23.863	16.4	23.458
21.3	23.855	16.3	23.450
21.2	23.846	16.2	23.442
21.1	23.838	16.1	23.433
21.0	23.830	16.0	23.425
20.9	23.822	15.9	23.417
20.8	23.814	15.8	23.409
20.7	23.806	15.7	23.401
20.6	23.798	15.6	23.393
20.5	23.790	15.5	23.385
20.4	23.782	15.4	23.377
20.3	23.774	15.3	23.369
20.2	23.766	15.2	23.361
20.1	23.757	15.1	23.352
20.0	23.749	15.0	23.344
19.9	23.741		
19.8	23.733		
19.7	23.725		
19.6	23.717		
19.5	23.709		
19.4	23.701		
19.3	23.693		
19.2	23.685		
19.1	23.676		
19.0	23.668		

TEMP °F	OUT MV	TEMP °F	OUT MV	TEMP °F	OUT MV	TEMP °F	OUT MV	TEMP °F	OUT MV
86.0	24.559	80.9	24.330	75.9	24.105	70.9	23.880	65.9	23.655
85.9	24.555	80.8	24.325	75.8	24.100	70.8	23.875	65.8	23.650
85.8	24.550	80.7	24.321	75.7	24.096	70.7	23.871	65.7	23.646
85.7	24.546	80.6	24.316	75.6	24.091	70.6	23.866	65.6	23.641
85.6	24.541	80.5	24.312	75.5	24.087	70.5	23.862	65.5	23.637
85.5	24.537	80.4	24.307	75.4	24.082	70.4	23.857	65.4	23.632
85.4	24.532	80.3	24.303	75.3	24.078	70.3	23.853	65.3	23.628
85.3	24.528	80.2	24.298	75.2	24.073	70.2	23.848	65.2	23.623
85.2	24.523	80.1	24.294	75.1	24.069	70.1	23.844	65.1	23.619
85.1	24.519	80.0	24.289	75.0	24.064	70.0	23.839	65.0	23.614
85.0	24.514	79.9	24.285	74.9	24.060	69.9	23.835	64.9	23.610
84.9	24.510	79.8	24.280	74.8	24.055	69.8	23.830	64.8	23.605
84.8	24.505	79.7	24.276	74.7	24.051	69.7	23.826	64.7	23.601
84.7	24.501	79.6	24.271	74.6	24.046	69.6	23.821	64.6	23.596
84.6	24.496	79.5	24.267	74.5	24.042	69.5	23.817	64.5	23.592
84.5	24.492	79.4	24.262	74.4	24.037	69.4	23.812	64.4	23.587
84.4	24.487	79.3	24.258	74.3	24.033	69.3	23.808	64.3	23.583
84.3	24.483	79.2	24.253	74.2	24.028	69.2	23.803	64.2	23.578
84.2	24.478	79.1	24.249	74.1	24.024	69.1	23.799	64.1	23.574
84.1	24.474	79.0	24.244	74.0	24.019	69.0	23.794	64.0	23.569
84.0	24.469	78.9	24.240	73.9	24.015	68.9	23.790	63.9	23.565
83.9	24.465	78.8	24.235	73.8	24.010	68.8	23.785	63.8	23.560
83.8	24.460	78.7	24.231	73.7	24.006	68.7	23.781	63.7	23.556
83.7	24.456	78.6	24.226	73.6	24.001	68.6	23.776	63.6	23.551
83.6	24.451	78.5	24.222	73.5	23.997	68.5	23.772	63.5	23.547
83.5	24.447	78.4	24.217	73.4	23.992	68.4	23.767	63.4	23.542
83.4	24.442	78.3	24.213	73.3	23.988	68.3	23.763	63.3	23.538
83.3	24.438	78.2	24.208	73.2	23.983	68.2	23.758	63.2	23.533
83.2	24.433	78.1	24.204	73.1	23.979	68.1	23.754	63.1	23.529
83.1	24.429	78.0	24.199	73.0	23.974	68.0	23.749	63.0	23.524
83.0	24.424	77.9	24.195	72.9	23.970	67.9	23.745	62.9	23.520
82.9	24.420	77.8	24.190	72.8	23.965	67.8	23.740	62.8	23.515
82.8	24.415	77.7	24.186	72.7	23.961	67.7	23.736	62.7	23.511
82.7	24.411	77.6	24.181	72.6	23.956	67.6	23.731	62.6	23.506
82.6	24.406	77.5	24.177	72.5	23.952	67.5	23.727	62.5	23.502
82.5	24.402	77.4	24.172	72.4	23.947	67.4	23.722	62.4	23.497
82.4	24.397	77.3	24.168	72.3	23.943	67.3	23.718	62.3	23.493
82.3	24.393	77.2	24.163	72.2	23.938	67.2	23.713	62.2	23.488
82.2	24.388	77.1	24.159	72.1	23.934	67.1	23.709	62.1	23.484
82.1	24.384	77.0	24.154	72.0	23.929	67.0	23.704	62.0	23.479
82.0	24.379	76.9	24.150	71.9	23.925	66.9	23.700	61.9	23.475
81.9	24.375	76.8	24.145	71.8	23.920	66.8	23.695	61.8	23.470
81.8	24.370	76.7	24.141	71.7	23.916	66.7	23.691	61.7	23.466
81.7	24.366	76.6	24.136	71.6	23.911	66.6	23.686	61.6	23.461
81.6	24.361	76.5	24.132	71.5	23.907	66.5	23.682	61.5	23.457
81.5	24.357	76.4	24.127	71.4	23.902	66.4	23.677	61.4	23.452
81.4	24.352	76.3	24.123	71.3	23.898	66.3	23.673	61.3	23.448
81.3	24.348	76.2	24.118	71.2	23.893	66.2	23.668	61.2	23.443
81.2	24.343	76.1	24.114	71.1	23.889	66.1	23.664	61.1	23.439
81.1	24.339	76.0	24.109	71.0	23.884	66.0	23.659	61.0	23.434
81.0	24.334								

TEMP. °F	OUT MV
60.9	23.430
60.8	23.425
60.7	23.421
60.6	23.416
60.5	23.412
60.4	23.407
60.3	23.403
60.2	23.398
60.1	23.394
60.0	23.389
59.9	23.385
59.8	23.380
59.7	23.376
59.6	23.371
59.5	23.367
59.4	23.362
59.3	23.358
59.2	23.353
59.1	23.349
59.0	23.344

6.2.3 Verify voltage, once set, does not drift.

6.2.4 Seal Pot R1

6.2.5 Remove power from card

6.2.6 Verify continuity between the following points.

P15B	Test JA (test spring)		7N	JA26
P15B	JA15		8P	JA17
TSP	J1R (jumper pin)		8N	JA18
TSN	J2R (jumper pin)		9P	JA9
ACOM	JA16		9N	JA10
1P	JA21		10P	JA1
1N	JA22		10N	JA2
2P	JA23		11P	JA3
2N	JA24		11N	JA4
3P	JA27		12P	JA5
3N	JA28		12N	JA6

4P	JA29		13P	JA7
4N	JA30		13N	JA8
5P	JA33		14P	JA11
5N	JA34		14N	JA12
6P	JA31		15P	JA13
6N	JA32		15N	JA14
7P	JA25			

6.2.7 Remove all connections

6.2.8 Set Sencore LC103 for 470pF 10V with +/-10% tolerance

6.2.9 Connect negative lead from Sencore LC103 to CGND (stab on)

6.2.10 Perform cap checks between the ground in the previous step and the following points by pressing the capacitor value button.

1P		8N
1N		9P
2P		9N
2N		10P
3P		10N
3N		11P
4P		11N
4N		12P
5P		12N
5N		13P
6P		13N
6N		14P
7P		14N
7N		15P
8P		15N

6.3 ***TEST COMPLETE ***

7. Notes

7.1 None at this time.

8. Attachments

8.1 None at this time.