AC Impedance Test Report

Testing Date: 2014–03-14
Model No.: [Model Number]
Manufacturing Date: [Manufacturing Date]
Testing environment: 21℃, 50% RH

Standard & accessories used:

<table>
<thead>
<tr>
<th>Nomenclature</th>
<th>Mfg//Model No.</th>
<th>Serial. No</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oscillator</td>
<td>GDS-820</td>
<td>D151145</td>
<td>2014/08/24</td>
</tr>
<tr>
<td>Multimeter</td>
<td>TES2500</td>
<td>961108003</td>
<td>2014/05/09</td>
</tr>
<tr>
<td>Audio Generator</td>
<td>GAG-809</td>
<td>D630815</td>
<td>2014/08/04</td>
</tr>
</tbody>
</table>

Testing Procedure:

a) Applying a sinusoidal current of known amplitude and observing the amplitude of the resulting voltage across the electrodes

b) The magnitude of the impedance is the ratio of the amplitude of the voltage to that of the current.

c) An adequate current generator can be assembled utilizing a sinusoidal signal (voltage) generator with a 1 MΩ resistor in series with the electrode pair. The level of the impressed current should not exceed 100 microamperes p-p.

d) After the electrode pair has been tested for compliance with this requirement, the 10-Hz impedance of the electrode pair shall not exceed 3 kΩ. (as below)

Testing Circuit:

![Testing Circuit Diagram]

Result

<table>
<thead>
<tr>
<th>Unit</th>
<th>Standard</th>
<th>Roscoe Electrode</th>
<th>VitalStim Electrode</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td># 1</td>
<td>&lt;3 kΩ</td>
<td>0.29 kΩ</td>
<td>3.05 kΩ</td>
<td>Pass* (considering equipment tolerance)</td>
</tr>
<tr>
<td># 2</td>
<td>&lt;3 kΩ</td>
<td>0.27 kΩ</td>
<td>1.82 kΩ</td>
<td>Pass</td>
</tr>
</tbody>
</table>
DC offset Test Report

Testing Date: 2014–03-14
Model No.:
Manufacturing Date:
Testing environment: 21℃ 50%RH
Standard & Accessories used:
  Nomenclature: Multimeter
  Mfg./Model No.: TES2500
  I.D. No.: 961108003
  Due Date: 2014/05/09

Testing Procedure:

  a connecting two electrodes gel-to-gel to form a circuit with a dc voltmeter
    having a minimum input impedance of 10 MΩ and a resolution of 1mV or
    better.
  b The measuring instrument shall apply less than 10nA of bias current to the
    electrodes under test
  c The measurement shall be made after a 1-min stabilization period, but
    before 1.5 minutes have elapsed.
  d Exhibit an offset voltage no greater than 100 millivolts (mV)

Testing Circuit:

![Testing Circuit Diagram]

Result

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit</td>
<td>Standard</td>
<td>Roscoe Electrode</td>
<td>VitalStim Electrode</td>
<td>Result</td>
</tr>
<tr>
<td>#1</td>
<td>&lt;100 mV</td>
<td>2.7mV</td>
<td>0.29mV</td>
<td>Pass</td>
</tr>
<tr>
<td>#2</td>
<td>&lt;100 mV</td>
<td>2.5mV</td>
<td>4.64mV</td>
<td>Pass</td>
</tr>
</tbody>
</table>
Defibrillation Overload Recovery Test Report


Testing Date: 2014–03-14
Model No.: 
Manufacturing Date: 
Testing environment: 21°C 50%RH

Standard & accessories used:
Nomenclature: Multimeter
Mfg/Model No: TES2500
Serial. No: 961108003
Due Date: 2014/05/09

Testing Procedure:

a A pair of electrodes shall be connected gel-to-gel and joined the test circuit with switch SW1 closed and SW2 and SW3 open;
b At least 10 seconds must be allowed for the capacitor to fully charge to 200V; switch SW1 is then opened;
c The capacitor is immediately discharged through the electrode pair by holding switch SW2 closed long enough to discharge the capacitor to less than 2V. (This time shall be no longer than 2 seconds);
d Switch SW2 is opened and SW3 is closed immediately, thereby connecting the electrode pair to the offset measurement system.
e The electrode offset is recorded to the nearest 1mv 5 seconds after the closure of switch SW3 and every 10 seconds thereafter for the next 30 seconds.
f The overload and measurement are repeated three times.
g The test sequence above is repeated for n electrode pairs. For all electrode pairs tested, the 5-sec offset voltage after each of the four discharges of the capacitor shall not exceed 100mV, and any difference in adjacent 10-sec values (after the initial 5-sec period) shall not exceed ±11 mV (±1 mV/sec).

Testing Circuit:
<table>
<thead>
<tr>
<th></th>
<th>Standard</th>
<th>5 sec.</th>
<th>15 sec.</th>
<th>25 sec.</th>
<th>35 sec.</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roscoe Electrode # 1</td>
<td>&lt;100 mV</td>
<td>12.4 mV</td>
<td>11.7 mV</td>
<td>11.2 mV</td>
<td>10.7 mV</td>
<td>Pass</td>
</tr>
<tr>
<td>Roscoe Electrode # 2</td>
<td>&lt;100 mV</td>
<td>14.2 mV</td>
<td>12.7 mV</td>
<td>11.5 mV</td>
<td>10.9 mV</td>
<td>Pass</td>
</tr>
<tr>
<td>VitalStim Electrode #1</td>
<td>&lt;100 mV</td>
<td>26.1 mV</td>
<td>21.5 mV</td>
<td>19.3 mV</td>
<td>17.6 mV</td>
<td>Pass</td>
</tr>
<tr>
<td>VitalStim Electrode #2</td>
<td>&lt;100 mV</td>
<td>23.5 mV</td>
<td>20.2 mV</td>
<td>18.0 mV</td>
<td>16.5 mV</td>
<td>Pass</td>
</tr>
</tbody>
</table>