

Quantum VII Real Time Bioelectrical Impedance Analyzer (BIA)

Short and Long Term Body Composition Studies

The new portable hand-held Quantum VII Biological Impedance Analyzer (BIA) continuously measures true biological impedance properties and averages them creating a highly accurate BIA for the short and long term study of human body composition by health care professionals.



Quantum VII - Features

- The BIA standard for accurate and repeatable resistance and reactance measurements with 0.1 ohm stability.
- Complete BIA measurements taken every 1/2 second featuring patented subject isolation.
- Accumulates and displays average, standard deviation (STD) and minimum - maximum values for each BIA record.
- Dual mode operation: Classical BIA (long term) or Scheduled BIA observations (short term).
- Scheduled BIA sampling from 2 seconds to 24 hours and set with standard time (HH:MM:SS).
- Automatic shutdown during sampling to save battery.
- 8 GB memory card holds Classical and Scheduled BIA real time reports with time stamps.
- Built-in communications include Bluetooth Low Energy (BLE) and WiFi with website to access BIA records. Can be used in the field to collect hundreds of individual BIA records.
- 2.8 inch HD color display featuring glass capacitance touch screen for fast menu access.
- Built-in accelerometer to measure subject 3D orientation to gravity (like an airplane) when carried in a pocket.
- Rechargeable Li-Ion Polymer smart protected battery. More than 5 hours of continuous run time (2200++ record samples).

In Classical BIA mode the number of averages grows with time until the ON button is pressed. Averaging improves accuracy and resolution (0.1 ohms) by reducing the effects of motion, respiration and circulation. The standard deviation (variance) of the average resistance, reactance and phase angle are available to illustrate the magnitude of these effects.

The longer the subject is connected, the greater the number of average observations. A 10 second connection will result in approximately 20 average stable accurate readings. The average reading will not change when the subject is disconnected from the analyzer. The Quantum VII can then be taken to a computer to analyze the new BIA measurements. Pressing the ON button again will save the BIA measurements as a time stamped record and then shut the Quantum VII off. The Quantum VII is excellent for remote individual BIA measurements that are analyzed weeks later.

In Scheduled BIA mode measurements are taken at specific intervals from 2 seconds to 24 hours. Any interval above 20 seconds will cause the Quantum VII to sleep until the next sample time arrives. The instrument will then wake up for 5 seconds to take a new measurement, average 6 observations and create a new report record. An experiment with a 1 hour sample rate could run for months on a single battery charge. Applications include accurate human body composition, food sciences and animal research to name just a few.