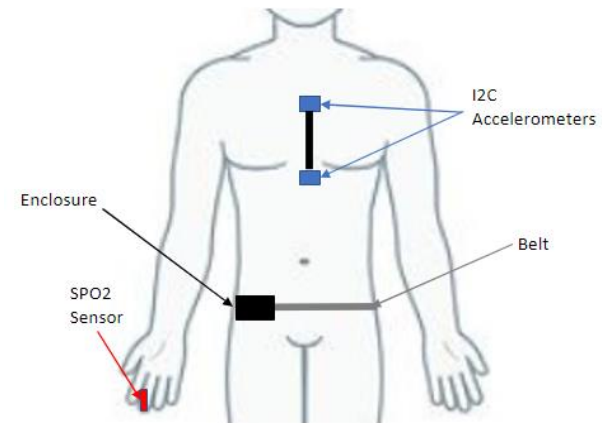


## QUICKSTART: Microcontroller Usage

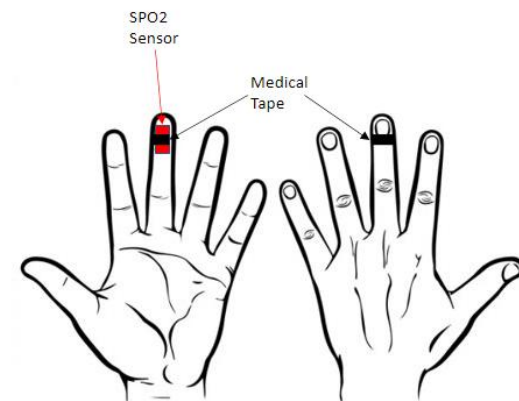


1. The device is self-powered by a lithium 9V battery. Move the power switch to the on position (toward the LED) to power on.
2. Connect to the "bioSense" WiFi network with the password "12345678". In a web browser, navigate to the address "192.168.4.1".
3. Verify sensor placement and subject comfort.
4. When ready to log data, navigate to the "Logging" webserver tab and select "Logging Start":
  - a. Data logging will start immediately.
  - b. Red LED will show active writing activity to SD card.
5. When ready to stop logging data, select "Logging Stop":
  - a. SD card will be closed out immediately, and the file will be accessible on the "Files" webserver tab.
  - b. Another logging session may be started without danger of overwriting the previous log file.
  - c. Log files are formatted as "data-0001.csv", "data-0002.csv", etc.
6. SD card may be re-inserted for continued use without resetting the microcontroller
  - a. Note that filenames are incremented from "0001" after each microcontroller reset – files may be overwritten if not copied from SD card using an SD card reader and PC before resetting microcontroller and beginning a new logging session
7. Turn the device off when not logging to conserve battery life. Move the power switch away from the LED to power off.
8. If no function is observed, replace the Lithium 9V battery by removing the 4 Phillips-head screws on the enclosure. Only use Lithium replacements to prevent leaking.

## QUICKSTART: Sensor Placement



1. Place accelerometer sensors with one located at the xiphoid process (just below the sternum, in between the rib cage) and the other on the sternum
  - a. Sensors may be taped in place or secured with elastic
  - b. Sensors may be placed over clothing provided there are no folds or excessive layers
2. Ensure the sensors are able to move through the range of motion created by a full inhale and exhale without being constricted by the wire harness



3. A small Velcro strap is provided to affix the pulse-oximeter to the fore-finger
  - a. Do not over-tighten when affixing, or readings will be intermittent
  - b. The sensor should be affixed just firmly enough to stay