

# OpenBAN (biosignalsplux Solo) Data Sheet

OB 04092017

## SPECIFICATIONS

- > **Analog Ports:** 1 generic input
- > **Integrated Sensors:** triaxial accelerometer; triaxial magnetometer; microphone
- > **Sampling Rate:** up to 1kHz
- > **Resolution:** up to 16-bit
- > **Communication:** Bluetooth Class II; range up to ~10m (in line of sight)
- > **Battery:** 720mAh 3.7V LiPo rechargeable (~16h streaming)

## FEATURES

- > Single channel acquisition device
- > Integrated triaxial accelerometer and magnetometer for motion tracking
- > Built-in microphone for sound recordings
- > Virtual ground for compatible sensors (e.g. EMG)
- > Raw data acquisition from all analog single channel biosignalsplux sensors
- > Battery charging via micro USB cable

## APPLICATIONS

- > Life sciences studies
- > Biomedical research
- > Human-Computer Interaction
- > Robotics & Cybernetics
- > Physiology studies
- > Psychophysiology
- > Biomechanics
- > Ergonomics

## GENERAL DESCRIPTION

The OpenBAN gathers 10+ years of field-proven expertise of biosignalsplux products, offering reliable high performance real-time wireless raw data acquisition from a wide range of sensors. It is an easy-to-use, versatile, reliable and portable platform for physiological data acquisition and is the perfect companion for applications where the use of a single biosignal sensor is needed.

## WARNING

Use only **ACCESSORIES APPROVED AND VALIDATED** for biosignalsplux.



Fig 1: OpenBAN

**biosignalsplux**  
wearable body sensing platform

PLUX – Wireless Biosignals, S.A.  
Av. 5 de Outubro, n. 70 – 8.  
1050-059 Lisbon, Portugal  
plux@plux.info  
<http://biosignalsplux.com/>

REV A

© 2017 PLUX

biosignalsplux products are intended for use in life science education and research applications; they are not medical devices nor are they intended for medical diagnosis, cure, mitigation, treatment or prevention of disease. we expressly disclaim any liability whatsoever for any direct, indirect, consequential, incidental or special damages, including, without limitation, lost revenues, lost profits, losses resulting from business interruption or loss of data, regardless of the form of action or legal theory under which the liability may be asserted, even if advised of the possibility of such damages.

# biosignalsplux hub

## Data Sheet

### RADIO CHARACTERISTICS

Operating frequency range	2400 – 2483.5 MHz ISM Band
Modulation method	GFSK (1 Mbps) P/4 DQPSK (2Mbps)
Hopping	1600 hops/s, 1 MHz channel space
Transmission power	Min: -11 dBm Max: +3 dBm
Antenna peak gain (XZ-V)	0.5dBi typical
Average antenna gain (XZ-V)	-0.5 dBi typical
Antenna VSWR	2 max
Certifications (Bluetooth module)	Bluetooth, FCC, IC, Japan and South Korea

### LED STATUS

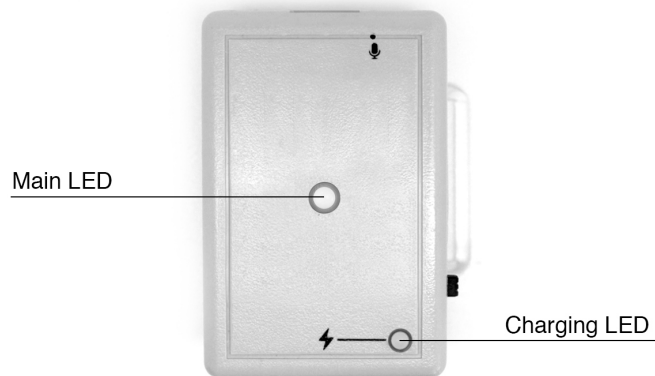


Fig 2: OpenBAN LEDs.

Main LED	
None	Off
1 green blink per second	Device & Bluetooth on; idle
2 green blinks per seconds	Acquiring/streaming data
2 red blinks	Low battery
Battery – Charging LED	
Constantly orange	Charging
Constantly red	Not charging; charging error occurred; switch not in off position
Constantly purple	Charging complete

# biosignalsplux hub

## Data Sheet

---

### **PHYSICAL CHARACTERISTICS**

- > Dimensions (without cloth clip; W x L x H): 54x35x15mm
- > Dimensions (with cloth clip; W x L x H): 54x35x24mm
- > Weight: 45g
- > Color: Grey



*Fig 3: OpenBAN views.*