Bitbrain

BIOSIGNAL TECHNOLOGY

Ring Biosignal GSR BVP

Accurate and comfortable GSR and BVP monitoring

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Ring is an ultralight wearable device for real-time monitoring of electrodermal activity (EDA/GSR) and cardiovascular signals (BVP). It includes a 3-axis accelerometer to estimate motion artifacts and ensure high signal quality, even during dynamic conditions.

Adaptable and adjustable
Very comfortable technology that can be set up easily in less than 10 seconds.

Connectivity and storage
Bluetooth real time data streaming and local SD storage.

GSR, BVP and ACC sensors
Dry-sensors located on the fingers´ first and second phalanges (optimal measurement points).

Advanced electronics
Signal acquisition layer optimized to improve SNR, while reducing external artifacts.

Discover how **Bitbrain technology is applied across various research fields.**

For the online version, click here or scan the QR code if you're viewing the printed version.

Use Cases

Real-World Applications

Understand physiological correlates in real-world applications, such as **education, UX** or in **professional workspaces**.

Stress and Clinical Research

In **clinical research**, perform biofeedback applications for stress, or assessments based on physiological responses.

Psychology and Neuroscience

Explore new research scenarios in **psychology and neuroscience** with fast and easy monitoring in and out-of-the lab.

Technical Specifications

HARDWARE

SENSORS	
Biosignals channels	1x EDA (µS), 1x BVP (bpm), 1x ACC (3-axis)

WIRELESS AMPLIFIER	
Sampling rate	32 SPS at 16 bits
Resolution	16 bits
Bandwidth	DC – 16Hz (2rd order LPF)
Integrated sensors	Integrated accelerometer (3 axis)
Input range and noise	0.1 - 100 µS, (GSR) 0 - 250 bpm (BVP) ± 4G (Accelerometer)
Data backup	Removable micro SD card

DATA STREAMING AND STORE	
Data transmission and range	Bluetooth 2.1 + EDR with 10 meters in direct sight
Data files	CSV

POWER	
Battery	Rechargeable lipo battery. Charging time < 3.5 h
Autonomy	> 8 h

GENERAL	
Weight	60g
Warranty	2 years
Certifications	CE (Directive 2014/53)

SOFTWARE

BITBRAIN CORE RESEARCH SOFTWARE (INCLUDED WITH EQUIPMENT)

Bitbrain SennsLite
Real-time visualization, recording, and synchronized data across Bitbrain devices. LSL-compatible for third-party real-time I/O (BCI2000, OpenVibe, NeuroPype, Medusa). CSV and EDF export for Python (MNE), MATLAB (EEGLAB/FieldTrip/BCILAB), and more.

Bitbrain SDK
SDK in C for maximum performance and portability enabling Python integration. Compatible with Windows OS and Linux (x86).

BITBRAIN EXTENDED RESEARCH TOOLS (LICENSED)

Bitbrain SennsLab
Synchronization software for experimental design and data collection, integrating 35+ sensor modalities (EEG, eye-tracking, biosignals). Compatible with third-party software via TCP/IP and CSV export.

Bitbrain SennsMetrics
Data analysis tool for emotional, cognitive, and behavioral metrics. Data are recorded with SennsLab, processed through SennsCloud, and analyzed and visualized in SennsMetrics.

BITBRAIN LABORATORIES

Human Behaviour Research Lab

Multimodal platform integrating Bitbrain EEG, biosignals, and Tobii eye-tracking with synchronized data acquisition, analysis, and visualization software, delivering cognitive, emotional, and behavioral biometrics.

- Diadem 12ch EEG
- Ring Biosignal GSR BVP
- SennsLab & SennsMetrics Software
- Tobii Pro Spark
- Tobii Pro Glasses

Technical Overview

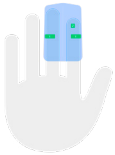
Wireless, mobile, compact, and ultralight (60g). Very easy to use, and allows for self-placement.

Reliable biosignal monitoring at 32Hz and 16 bits during 10+ hours on Bluetooth streaming.

Easy to clean, transport, store, and reuse.

SENSOR LAYOUT

Layout optimized for measurement of GSR and BVP (cardiac activity), often used to estimate emotional states.



BUNDLE INCLUDES

- Ring
- 8GB Class-10 MicroSD card with SD adaptor
- USB type A - micro USB B cable

Bitbrain

We invite you to explore our scientific publications section.

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