Mindfield eSense

eSense Pulse

Mobile sensor for measurement of heart rate variability

Mobile sensor for measurement of breathing

eSense Respiration
Mindfield eSense

eSense Skin Response

Mobile sensor for measurement of skin conductance

Mobile sensor for measurement of skin temperature

eSense Temperature
Mindfield eSense

Our eSense Sensors

• With our eSenses you can **measure and effectively reduce your stress level** with biofeedback training
• Biofeedback with the smartphone or tablet
eSense Pulse
The Mindfield eSense Pulse is a convenient sensor for measurement of the heart rate variability.

The eSense Pulse is a chest strap, which performs a 1-channel ECG measurement.
eSense Pulse

Heart Rate Variability

- Heart rate variability depends directly on the state of relaxation or stress, making it a commonly used stress indicator.
eSense Pulse

Details

• Sample frequency (internal): 500 Hz, RR intervals with 5 Hz to eSense App
• Measuring range: 30-240 BPM ± 2 BPM
• Compatible with f.i. Kubios HRV Software and more
eSense Respiration

RESPIRATORY BIOFEEDBACK

Erhältlich im App Store
ANDROID APP BEI Google play
erhältlich bei amazon appstore

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MINDFIELD BIOSYSTEMS
A Better State of Mind
Biofeedback

• The Mindfield eSense Respiration is a small sensor to measure your breathing

• Application always in connection with eSense skin response as sensor cable

• Can optionally be used with the eSense Pulse
eSense Respiration

Respiration

• Respiration is related to **tension** and **relaxation** and is a valuable stress indicator.

• 2 main measurements: Respiration amplitude (RA, how deep you breathe) and breathing frequency (breaths per minute).
Respiration

- Respiration is special, as it can be controlled consciously
- Especially suited for beginners
The Skin Response is a convenient sensor for measurement of the skin conductance. Measures the skin conductance in $\mu$Siemens ($\mu$S) with two electrodes that are attached to the index- and middle fingers.
Skin conductance

- Skin conductance depends directly on the state of **relaxation** or **stress**, making it a commonly used and very precise stress indicator.
eSense Skin Response

Details

• Measuring of the skin conductance from 0-100µS
• Sampling frequency 1-10 Hz (adjustable)
• Resolution: **18bit**, rounded to 2 decimal places, not rounded for export
Types of electrodes

- Velcro electrodes
- Gel electrodes (disposable)
- Finger clips (without gel)
- EDA gel electrodes (reusable)
eSense Temperature
eSense Temperature

Biofeedback

• The eSense Temperature is a convenient sensor for measurement of the skin temperature

• The skin temperature is connected to our stress level: When we are stressed, we tend to have cold hands
Skin Temperature

• Voluntarily increasing the skin temperature in your fingers, thus increasing your peripheral blood circulation, is leading to relaxation and stress reduction.
eSense Temperature

Details

• Sampling frequency 10 Hz (adjustable)
• Resolution: **18bit**, rounded to 2 decimal places, not rounded for export
eSense Temperature

Options of fixation

- Leukosilk (medical tape)
- Holding
- Fingerclip
eSense Universal App

[Icons for Google Play, App Store, Amazon Appstore]

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A Better State of Mind
eSense Universal App

For Smartphones und Tablets
eSense Universal App

General information on heartbeat and heart rate variability

Our hearts keep us alive and work tirelessly throughout our lives. It pumps the blood through our body, so that oxygen-rich blood penetrates all the parts of our body and oxygen-poor blood is enriched again in the lungs with fresh oxygen. But it also keeps everything moving, including the transport of nutrients, hormones, immune cells, etc.

It is easy to know that our heart is beating, you can feel your pulse or even hear it when you put one ear to the chest of another person. Since time immemorial, we have been studying and measuring the functions of the heart and measuring the heartbeat is essential.

Depending on the situation, our heart is able to regulate the heartbeat. When we sleep, it usually beats slowly and evenly, when we exercise, it beats fast and adjusts its frequency constantly. Depending on the creature, the resting pulse changes: only six
eSense Universal App

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eSense Universal App

Details

• For all 4 eSense-Sensors
• For common iOS-devices (from iPhone 4S) and common Android-devices (from Android 4.4)
• For free
• Continuous development
eSense Universal App

Procedures

• Procedure consists of several assembled modules

• Modules can be assembled in any length to a fixed procedure
eSense Universal App

Procedures

• Guidance on relaxation, stress test, defined biofeedback training session or tasks for research purposes possible
• Summary after completion of procedure
eSense Universal App

- Relaxation
  - 12.03.2018
  - 00:15:00

- Stress test
  - 12.03.2018
  - 00:14:00

- Guided Breathing
  - 13.07.2018
  - 00:09:30

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A Better State of Mind
eSense Universal App

Biofeedback-Snake

- Easier representation via colored symbols
- Can be influenced in real time
- Amount of symbols exportable
eSense Universal App

Biofeedback-Snake
eSense Universal App

Export of the data

• Export of data from the app as CSV-file or PDF-file
• Further analysis with e.g. Microsoft Excel™ oder Google Tabellen™ possible
• eSense Pulse: Analysis with Kubios Premium
eSense Universal App

SDK (Software Development Kit)

- For developing of own apps on iOS, Android and Ionic 3/4 with Cordova plugins for the eSense’s
- SDK includes demo app to sample the measured values
eSense Universal App

SDK (Software Development Kit)

• May be used indefinitely for commercial and non-commercial projects
• Available in the Mindfield Shop (399€)
eSense Universal App

eSense Dashboard

• Streaming eSense data via the eSense app to a PC
• View measurements of several and different eSenses simultaneously and in real time
eSense Universal App

eSense Dashboard
eSense Universal App

eSense Dashboard

• Data protection guaranteed (Mindfield does not store any data)

• Available in the shop with or without SDK (699€ resp. 999€)
eSense Universal App

OSC-Transfer

• "Open Sound Control“, open-source network protocol
• Data transmission of several eSenses in real time
• Android, iOS, Java, Javascript, C++, Python etc.
Order your eSense

Get your eSense today in our shop:


