



DELTA

Multiparametric vital signs monitoring system

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What is DELTA?

DELTA is a research technology platform that enables real-time acquisition of physiological data, allowing researchers to perform in-depth analysis and visualization of data. DELTA can be worn at various locations on the body (e.g., wrist or upper arm) and offers cloud connectivity for easy use in clinical trials.

Vital signs

- Arrhythmia classification (e.g., atrial fibrillation, abnormal beats)
- Breathing rate
- Energy expenditure (kcal, MET)
- Fall detection
- Human kinetics (activity, cadence, energy expenditure, gesture, speed, steps, traveled distance, VO_2/VO_2 max, workout)
- Optical blood pressure (BP)¹
- Oxygen saturation (SpO_2)
- Pulse rate and pulse rate variability
- Sleep profiling
- Stress level

Why DELTA?

DELTA reunites CSEM's expertise in hardware, firmware, and algorithm development in a single platform. It aims target new opportunities and future product concepts.

DELTA is the culmination of a series of pioneering innovations: the first wrist-worn optical pulse rate monitor (EP1297784B1), the first wearable fertility tracker, and the first CE approved continuous optical blood pressure monitor.

Hardware

- Reflective-photoplethysmography (PPG)
- Accelerometer
- Ambient temperature sensor
- Ambient light sensor
- Barometer
- Data interfaces: BLE², USB
- Made from biocompatible materials



¹Occlusion-free trends, absolute BP values require a single 1-point calibration
²Bluetooth® Low Energy

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