

MOVESENSE SENSOR

Versatile, light and small but extremely durable sensor capable of measuring any movement and much more. Customizable functionality through open APIs that enable development of unique in-device apps. The functionality can be tailored to fit the exact needs of the target use case.

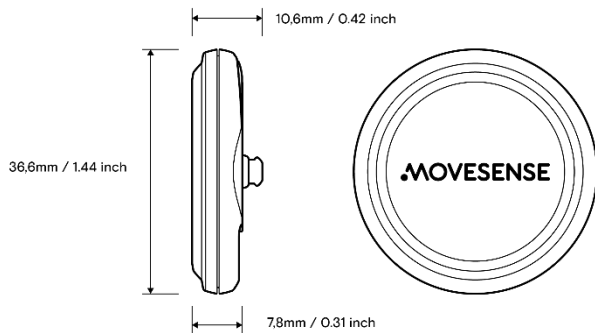


- Swim and shock proof construction, suitable for any sports
- Low profile snap connection for smooth and subtle attachment to apparel or gear
- User replaceable coin cell battery
- State of the art ultra-low power components
- Small size, light weight and waterproof
- Based on Suunto design and development
- Developed, designed and manufactured in Finland
- Available with custom branding

TECHNICAL HIGHLIGHTS

- 9-axis movement sensor: acceleration, gyroscope, magnetometer
- Heart rate, R-R- intervals, BLE heart rate service, optional: single channel ECG
- 1-wire expansion bus
- Temperature
- Data logging memory
- Bluetooth® 4.0 / 5.0 radio depending on firmware version
- Tools for developing customized applications that run inside the sensor
- Software libraries for developing compatible mobile applications
- Wireless firmware update capability
- Recognizes its attachment base through unique ID in Movesense connector

TECHNICAL BRIEF



DIMENSIONS

- 36.6mm/1.44" dia. x 10.6mm/0.42" thick
- Weight 9.4g / 0.33oz with battery
- Water resistant to 30m/100ft

I/O

- Red led on the front, SW controllable
- Wake-up, heart rate and 1 –wire expansion
- Interface via Movesense studs, stud center-to-center distance: 27.0mm/1.06"
- Optional attaching accessories with unique ID (readable through 1-wire)

SENSORS

- Accelerometer & Gyroscope
 - $\pm 2/\pm 4/\pm 8/\pm 16g$ full scale
 - $\pm 125/\pm 245/\pm 500/\pm 1000/\pm 2000^\circ/s$ full scale, sampling frequency: 12.5/26/52/104/208Hz/416Hz/833Hz
- Magnetometer ± 49 gauss full scale
- Temperature
 - Accuracy $<\pm 0.5^\circ C$, $0^\circ C$ to $+65^\circ C$
- Heart rate
 - Beats/minute, RR intervals, BLE HR service
 - 1 Channel ECG (non-medical)

LOGGER MEMORY

- 3Mbit EEPROM

SOFTWARE

- SDK for developing apps for the sensor
- Sensors and peripherals controllable via API incl. BT advertising, power schemes
- Easy to use C++ Movesense Device API
- iOS and Android mobile libraries with wireless
- sensor firmware update capability
- GNU toolchain for embedded ARM

MCU

- Nordic Semiconductor nRF52832
- 32 –bit ARM® Cortex®-M4
- 64kB on-chip RAM*
- 512kB on-chip FLASH*
- (*) Memory is shared with the Movesense OS and the user application
- Bluetooth Low Energy radio

BATTERY

- CR 2025 Lithium coin cell battery
- Operating time up to months, depending on the user application

APPROVALS AND COMPLIANCES

- CE, FCC, IC, C-Tick, CMIIT
- Conforms REACH, RoHS
- Bluetooth 4.0 / 5.0

PATENTS

US 13/071,624, US 13/832,049, US 13/832,598, US 13/917,668, US 13/397,872, USD 667,127, US 8,386,009, US 8,750,959, US 8,814,574, US 8,886,281, others pending