

Movesense Sensor



Versatile, light and small but extremely durable sensor capable of measuring any movement – of the human body, or of sports equipment. Runs an open API for developing unique in-device apps for all kinds of motion sensing use cases.

- Swim and shock proof construction, suitable for any sports.
- Based on Suunto design and development, benefits from Amer Sports sourcing power.
- Developed, designed and manufactured in Finland.
- Low profile snap connection for smooth and subtle attachment to apparel and gear.
- User replaceable battery.
- State of the art ultra low power components.
- One of the lightest and smallest sports sensors on the market, 10 g / 0.35 oz. with battery.
- Co-labeling options available.

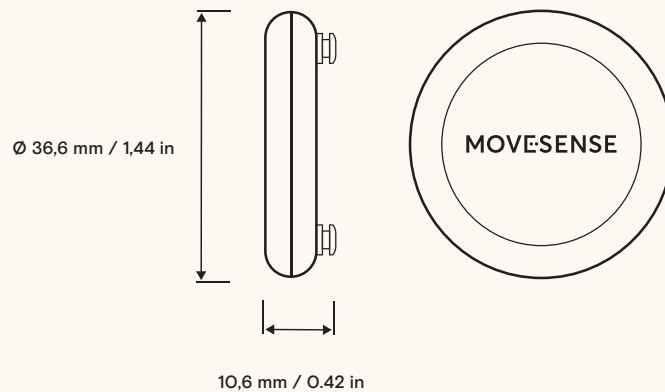
Technical highlights

- 9-axis motion sensor
- In-built memory for logging data
- Bluetooth® Smart compatible
- Software libraries for developing compatible mobile applications
- Wireless firmware update with BLE
- Recognizes its attachment base through 1-wire ID in Movesense connector

Innovation opportunities

- Create your own REST services to the sensor with Movesense API
- Develop applications in the sensor to process measured data before sending or storing it.
- Utilize the sensor's data logging capability for standalone operation
- Use the Movesense connector with 1-wire ID to launch apps that are linked to where the sensor is attached.

Sensor Technical Brief



Dimensions

- LxWxH: 36,6mm x 36,6mm x 10,6mm
- 1.44x1.44x0.42 inches
- Weight 10g / 0.35oz with battery
- Water resistant to 30m/100ft.
Good for swimming.

MCU

- Nordic Semiconductor nRF52832 comprising 32-bit ARM® Cortex®-M4 with 64kB on-chip RAM and 512kB on-chip FLASH
- Integrated Bluetooth Low Energy 4.0 radio, 2,4GHz. [Link to datasheet](#)
- External memory
- 128 kB EEPROM (Atmel AT24CM01) [Link to datasheet](#)

Sensors

- Accelerometer/gyro combo (ST LSM6DS3) with the following ranges: $\pm 2/\pm 4/\pm 8/\pm 16\text{g}$ full scale $\pm 125/\pm 245/\pm 500/\pm 1000/\pm 2000$ dps full scale [Link to datasheet](#)
- Magnetometer (LIS3MDL)
- Temperature (TMP112) with the following maximum ratings/accuracy: $\pm 0.5^\circ\text{C}$ (max) from 0°C to $+65^\circ\text{C}$ $\pm 1.0^\circ\text{C}$ (max) from -40°C to $+125^\circ\text{C}$ [Link to datasheet](#)

I/O

- UART, debug I/F and power & ground (behind the battery slot/sticker)
- Led (red) on the front
- 1-wire (Movesense connector)

Energy source

- CR 2025 Li-Ion battery

Software

- Easy to use C++ Movesense Device API
- iOS and Android libraries with firmware update capability
- GNU toolchain for embedded ARM

Approvals and compliances

- CE, FCC, IC
- Conforms REACH, RoHS
- Bluetooth 4.0

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