



Specifications

DISCLAIMER: SmartSocks® DISCOVERY is still in development. Specifications may be subject to change.

Operating modes

Burst mode

Data is buffered in flash memory and transmitted over Wi-Fi using the configured transmit interval (if/when the configured Wi-Fi network is available).

Streaming mode

Data is transmitted in real-time over Bluetooth® LE (currently unavailable).

Data management

Flash memory

For offline data capture, up to 3 hours (estimated).

2.4GHz Wi-Fi (802.11b/g/n)

For burst transfers at the configured transmit interval.

Bluetooth® 5.0 (LE)

For real-time streaming (currently unavailable).

Battery

Operating time between charges

Up to 24 hours (depending on configured transmit interval).

Charging time <3 hours.

Power supply

- Lithium polymer battery, 3.7V 850mAh
- Custom charging base with USB-C port, 5V 500 mA minimum supply

Certification

UKCA (UK)

CE (Europe)

FCC (US)

CSA (Canada)

Form factor

Size (sensor)

49 (l) x 43.5 (w) x 22 (d) mm.

Weight (sensor) 37 g

Min/max. ankle circumference (sock)

20/50 cm.

Min/max. foot size (sock)

4/11 UK (37/46 Europe, 6.5/12 US).

Environmental

Temperature range

Operating: 0 to 40 °C | Safe: -20 to 85 °C

Relative humidity 0-100%

Ingress protection IP68

Sensed parameters

Heart rate (HR)/heart rate variability (HRV)

- Sensor: photoplethysmography (PPG) with signal quality classification (good/acceptable/bad) using AI
- Sample rate: 1-256 Hz (configurable)
- Raw PPG data and processed HR and HRV data downloadable as a CSV

Inertial measurement – for movement, activity, falls, gait, balance

- Sensor: 3-axis accelerometer & 3-axis gyroscope
- Sample rate: 1-256 Hz (configurable)
- Sample range:
Accelerometer: ±2 to 16 g | Gyroscope: ±15.2 to 2,000 dps
- Sample resolution:
Accelerometer: 0.06 to 0.5 mg | Gyroscope: 0.5 to 61 mdps
- Raw accelerometer and gyroscope data and processed activity data downloadable as a CSV

Temperature

- Sensor: infrared thermopile
- Sample rate: 1-64 Hz
- Sample accuracy:
35 to 42 °C = ±0.2 °C | 15 to 45 °C = ±1 °C | -20 to 85 °C = ±3 °C
- Sample range: -20 to 85 °C
- Sample resolution: 0.02 °C (configurable)
- Raw temperature data downloadable as a CSV

Electrodermal activity (EDA)

- Electrode placement: medial longitudinal arch
- Electrode type: knitted copper
- Sample rate: 1-64 Hz (configurable)
- Sample range: 0.01-100 µS
- Raw electrodermal activity data downloadable as a CSV

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