

A blurred background image of a couple in bed. A man in a red shirt is in the background, and a woman in a green shirt is in the foreground. A black Philips Actigraphy health band is visible on the woman's wrist.

**PHILIPS**

RESPIRONICS

Actigraphy

Motion Biosensors

Health band

**Data doesn't  
sleep**

# Data doesn't rest

Clinically relevant, objective, and continuous Cardiology, Respiratory, Sleep, and Energy Expenditure data collection for therapy evaluation.

- Leverage data intelligence to identify therapy impact on patients' health
- Determine next steps for therapy development from trial to trial
- Commercialize more effective therapies, for more patients
- Assess evolving health status within defined populations over an extended period of time

## Wrist-worn wearable device

- 24/7 data capture, accessed remotely via mobile and web apps
- Multiple clinically relevant, validated, objective endpoints based on accelerometry and photoplethysmography (PPG) signals
- End-to-end solution inclusive of consultation regarding study design, device recommendation, and data analysis
- 24/7 customer service and support

Health band



Mobile App



Web App

Time Stamp	Activity Counts	Heart Rate BPM	Respiratory Rate	Total Error	Active Energy Ex	Walk	Sleep	Steps
10/Nov/2018 10:00 AM	71	58	13	2012.8877	0.0907	0	NaN	0
10/Nov/2018 10:01 AM	70	59	15	1.3719	0.0907	0	NaN	0
10/Nov/2018 10:02 AM	69	58	15	2.7428	0.0907	0	NaN	0
10/Nov/2018 10:03 AM	68	59	15	4.1157	0.0907	0	NaN	0
10/Nov/2018 10:04 AM	67	59	14	5.4877	0.0907	0	NaN	0
10/Nov/2018 10:05 AM	68	59	13	6.8596	0.0907	0	NaN	0
10/Nov/2018 10:06 AM	66	59	15	8.2315	0.0907	0	NaN	0
10/Nov/2018 10:07 AM	389	59	16	9.6035	0.0644	0	NaN	0
10/Nov/2018 10:08 AM	69	58	13	11.0664	0.0508	0	NaN	0
10/Nov/2018 10:09 AM	69	60	14	12.4383	0.0907	0	NaN	0
10/Nov/2018 10:10 AM	71	61	15	13.8102	0.0907	0	NaN	0
10/Nov/2018 10:11 AM	71	61	16	15.1821	0.0907	0	NaN	0
10/Nov/2018 10:12 AM	70	61	15	16.5540	0.0907	0	NaN	0
10/Nov/2018 10:13 AM	71	60	16	17.9259	0.0907	0	NaN	0
10/Nov/2018 10:14 AM	70	61	15	19.2978	0.0907	0	NaN	0
10/Nov/2018 10:15 AM	72	60	15	20.6698	0.0907	0	NaN	0
10/Nov/2018 10:16 AM	70	61	15	22.0417	0.0907	0	NaN	0
10/Nov/2018 10:17 AM	72	61	15	23.4136	0.0907	0	NaN	0
10/Nov/2018 10:18 AM	71	61	15	24.7855	0.0907	0	NaN	0
10/Nov/2018 10:19 AM	70	61	15	26.1574	0.0907	0	NaN	0
10/Nov/2018 10:20 AM	69	61	16	27.5293	0.0907	0	NaN	0
10/Nov/2018 10:21 AM	70	61	16	28.9012	0.0907	0	NaN	0

Intelligence for active evaluation of therapy support and future patient care.

## Features and Specifications

### Accessories

Charger and user manual	Charging cradle with USB connector; 5 V DC and 250 mA
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### Battery

Battery type	3.7 V 90 mAh built-in rechargeable li-polymer battery
Typical battery life	3 days
Recharge time	90 minutes to full charge

### Communications

Bluetooth	Low energy Bluetooth
Communication range	Approximately 2 meters (6 feet)
Mobile devices	Tested on devices from leading mobile manufacturers

### Dimensions

Size	Approx. 200 mm × 24 mm (small); Approx. 230 mm × 24 mm (large) Height of enclosure: 11 mm; Height of strap: 3 mm
Weight	Approx. 25 g / 0.9 oz

### Display

### Monochrome matrix display

### Environmental attributes

Moisture protection rating	IPX5/IPX7 (Health Band); IP21 (charging cradle)
Storage & transportation conditions	Temperature: -20 °C / -4 °F to 60 °C / 140 °F ; Relative humidity: < 93%. Atmospheric pressure: 700 hPa to 1060 hPa

### Memory

Memory size	4 MB
Monitoring capacity	7 days before rewriting

### Recording

Data output	60-sec epoch; 30-sec epoch for sleep/wake; aggregated per period
Off-wrist detection	Through pulse rate detected via photoplethysmography (PPG)
Recording time	Continuous recording excluding charging time and off wrist periods

### Sensors (Accelerometer and PPG)

Accelerometer	MEMS 3 axis (x,y,z)
Accelerometer dynamic range	+/- 8g
Accelerometer sampling rate	16 Hz
Accelerometer RMS noise	<2.1 mg
PPG frequency	525 nm for both LEDs
PPG sampling rate	32 Hz
PPG sensor	Optical Heart rate sensor (2 LEDs equally distributed on a single axis, centers aligned.)

### Warranty

### 2 year standard

## Endpoints

### Cardiology

- Heart rate
- Resting heart rate

### Energy Expenditure

- Activity counts
- Active energy expenditure
- Active minutes
- Activity types: walk and run
- Step counts
- Total energy expenditure
- VO2 Max
- Cardio Fitness Index

### Respiratory

- Respiratory rate
- Resting respiratory rate

### Sleep

- Sleep efficiency
- Sleep onset latency
- Total sleep time
- Wake after sleep onset

