



The eq02+ LifeMonitor

World-class
physiological data
monitoring that
makes a difference



The eq02+ is the leading multiparameter body worn sensor in the Equivital LifeMonitor range.

It measures clinical grade cardiorespiratory, temperature and activity data from mobile people. Data is stored on the sensor and can be transmitted wirelessly for viewing on a mobile phone or computer.

The eq02+ is ideal for monitoring human physiology across a wide range of applications including sports and exercise research, clinical trials, biofeedback, CBRN and military training and deployment.

Measurements



ECG, HR,
R-R interval



Accelerometer,
X,Y,Z, Activity



Respiratory
Rate



Body position/
Movement



Skin
Temperature



Oxygen
saturation*



Galvanic skin
response*



Core
temperature
capsule*/
Dermal Patch*

*Measured using a
compatible ancillary
sensor

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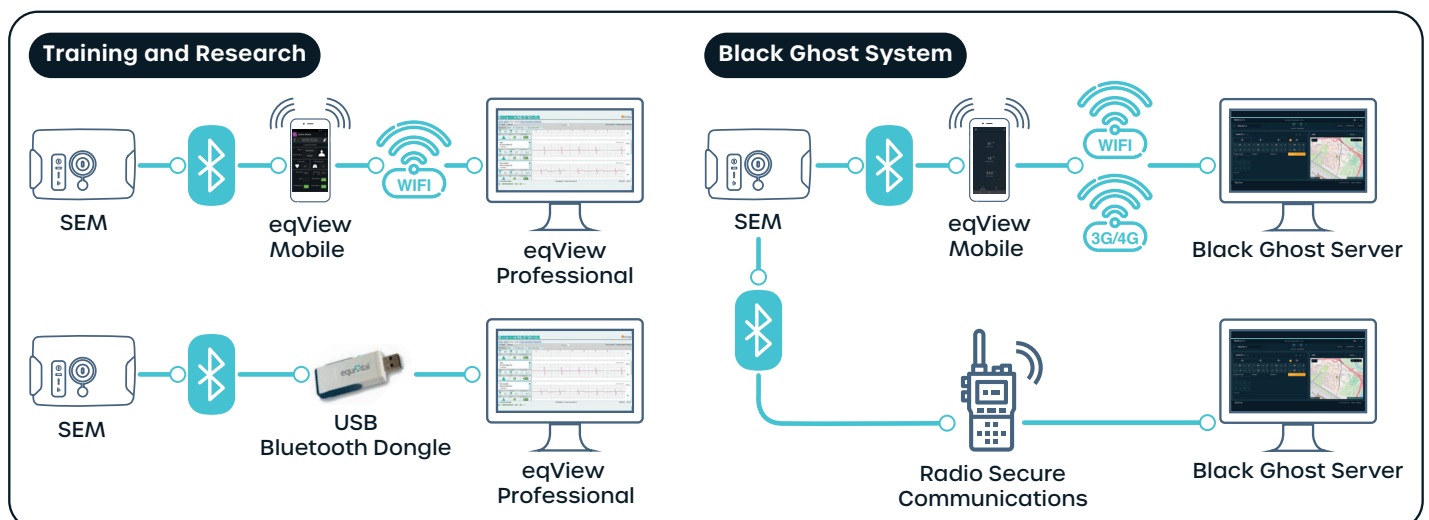


Benefits

- **2 Leads of 256Hz ECG:** Allows multichannel processing and reduction in noise from the ambulatory signal
- **25Hz and 256Hz Tri Axis Accelerometer:** Configurable to the requirements of a specific application from motion and activity analysis to detailed gait analysis
- **Wireless connection** to external sensors including core temperature pill, skin temperature patch and galvanic skin response sensor - All data automatically time synchronised and stored on the SEM
- **FDA and CE clearance:** Peace of mind that the system you are using meets the requirements of the rigorous medical device standards

Real time data transmission

Data can be transmitted in real time from the SEM, via Class 1 Bluetooth, to a mobile phone or computer, for viewing and analysis.





How it works

The LifeMonitor comprises 2 elements; the Sensor Belt and the Sensor Electronics Module (SEM). The sensor belt features low profile sensors embedded into a biocompatible fabric. The SEM docks into a cradle on the left hand side of the sensor belt where it processes, stores and transmits physiological data.

The Sensor Belt

The sensor belt is made from a breathable, lightweight fabric to ensure that it is comfortable for long-term use. The two-shoulder strap unisex design provides a secure and comfortable fit for both male and female users.

Key Features

- Unisex
- Breathable, sports fabric
- Available in Sizes covering 74-119cm (29in-47in)
- Washable
- A belt extender can be worn to extend the belt by one size.



The SEM

The SEM slots into the low profile belt cradle and it's LEDs, visible when worn on body, provide status information including transmission, power and external sensor connections. It has a rechargeable Li Polymer battery which takes approximately an hour to reach full capacity. The SEM includes a medical grade infra-red thermometer and tri-axis accelerometer.

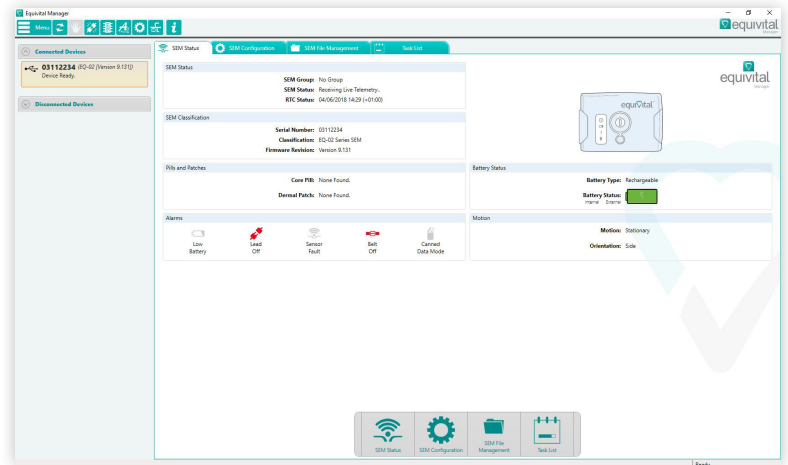
All data is stored on an integral 8GB SD card, allowing retrospective data download and analysis. An external battery pack can be used to provide longer monitoring time between SEM charges. The SEM also supports a hot swap facility enabling the user to change over batteries in the external battery pack and reconnect during monitoring for uninterrupted use on long wears.



Software

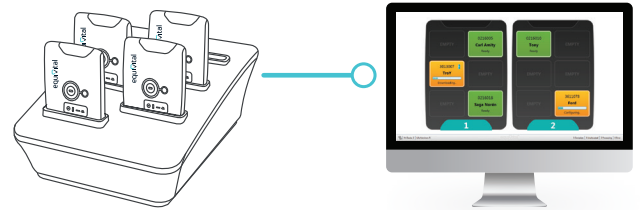
Equivital Manager

Equivital Manager is a software application for viewing SEM status information, downloading and splicing SEM files, pairing Bluetooth ancillaries and extracting data to CSV or Excel files. It is particularly useful for managing data and configuring a small number of SEMs, over USB.



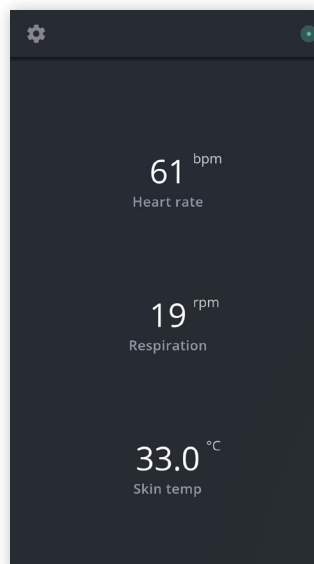
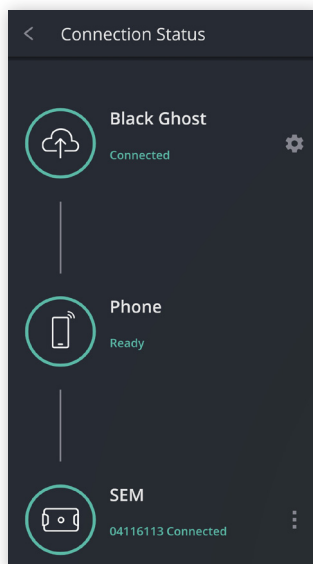
Equivital Qiosk

Equivital Qiosk is a software application that is intended for use in clinical trials and Black Ghost deployments where multiple SEMs and larger amounts of data need to be managed. It has a pre-configured set up for configuring and downloading data from a SEM, which is initiated without the need for user interaction. Data can automatically be uploaded to a local or remote database in a custom extract format when necessary. This is especially suitable where you need to maintain a consistent operating protocol between multiple researchers, sites or subjects.



eqView Mobile

eqView Mobile is an Android app that allows data from a SEM to be viewed in real time. It requires a one to one connection with the SEM over Bluetooth. Key data including ECG can be viewed on the app and transmitted on to either eqView Pro or Black Ghost.



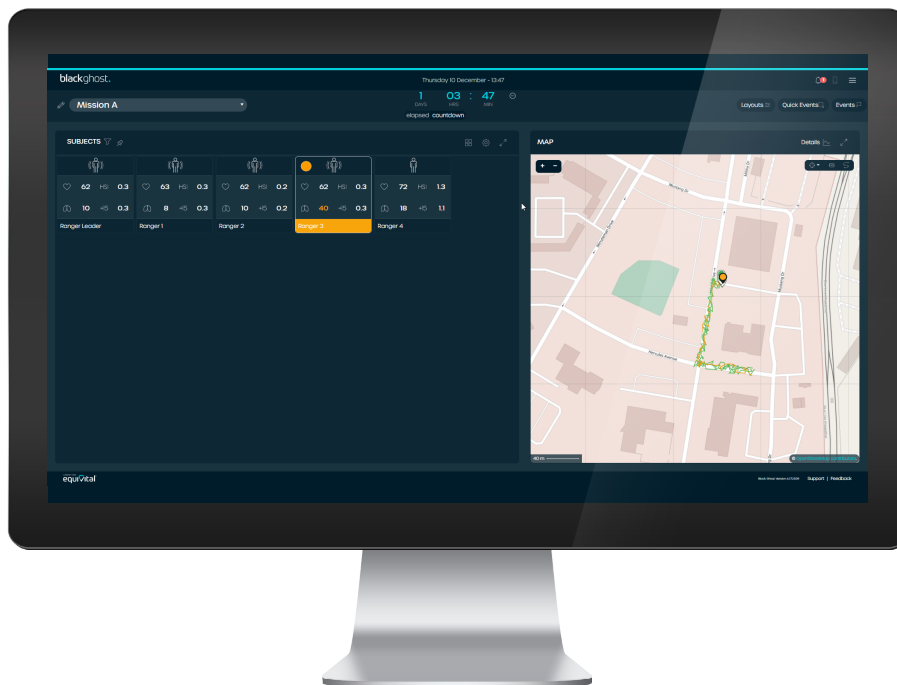
eqView Pro

eqView Pro is a software tool for viewing live data including ECG and respiratory waveforms. Subjects are assigned sensors, multiple sensors can be time synchronised and session event markers can be created during the session.



Black Ghost

Black Ghost is a web application tailored to the needs of CBRN, military and emergency first response users. It combines SEM and location data, enabling small and large teams to be monitored in training or deployment missions.



System Developers Kit (SDK)

Supported by our excellent in house team, Equival offers developers a choice of .NET and Java SDK to engineer innovative solutions with the eqO2+ LifeMonitor.

eq02+ LifeMonitor Key Specifications

Parameter	Specification
Memory	8GB
Power	Li-Po rechargeable cell
Li Polymer recharge time	Recharge from flat in 1 hour
Communications	Class 1 Bluetooth 2.1, 100m operating range
Connectivity	USB 2.0 compatible
Configuration	Via USB

Physical specifications	SEM
Weight	38g
Size	78mm x 55mm x 11mm
Operating temperature	-10 to +50°C
Operating humidity	0 to 95% RH Non-condensing
Operating altitude	Up to 30,000ft
Water ingress protection	IPx7

Signals	Sampling rate	Resolution
ECG	256Hz	10 bit
Respiratory	25.6Hz	10 bit
Skin temperature	15 seconds	0.1°C
Accelerometer	25.6 or 256Hz	12 bit

Physiological parameters	Reporting range
Heart rate	25-240bpm
Breathing rate	0-70 Breaths per minute
Skin temperature	-10°C to +50°C ±0.3°C Accuracy using IR Thermometer at temperature of interest
Body position	All orientations Includes fall detection and motion

Approvals	
Europe	CE Certified, EU Device Classification Class IIb
USA	FDA Device Classification Class II
Health Canada	Device Class II

Battery Life Data

SEM use case	Operating life	Operating life with external battery pack connected*
All SEM data recorded	48hrs	150hrs
All SEM data recorded with core temperature pill receiver on	18hrs	60hrs

For further information please contact info@equivital.com
For support related to Equivital products please contact support@equivital.com

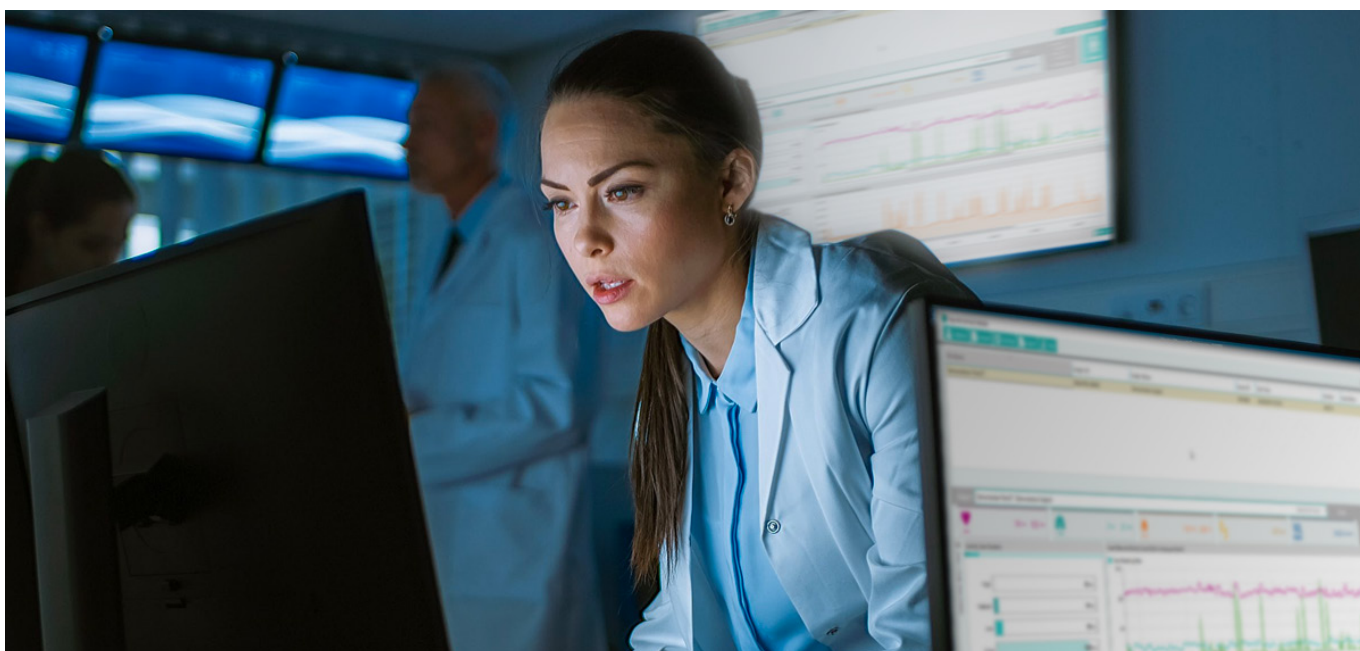
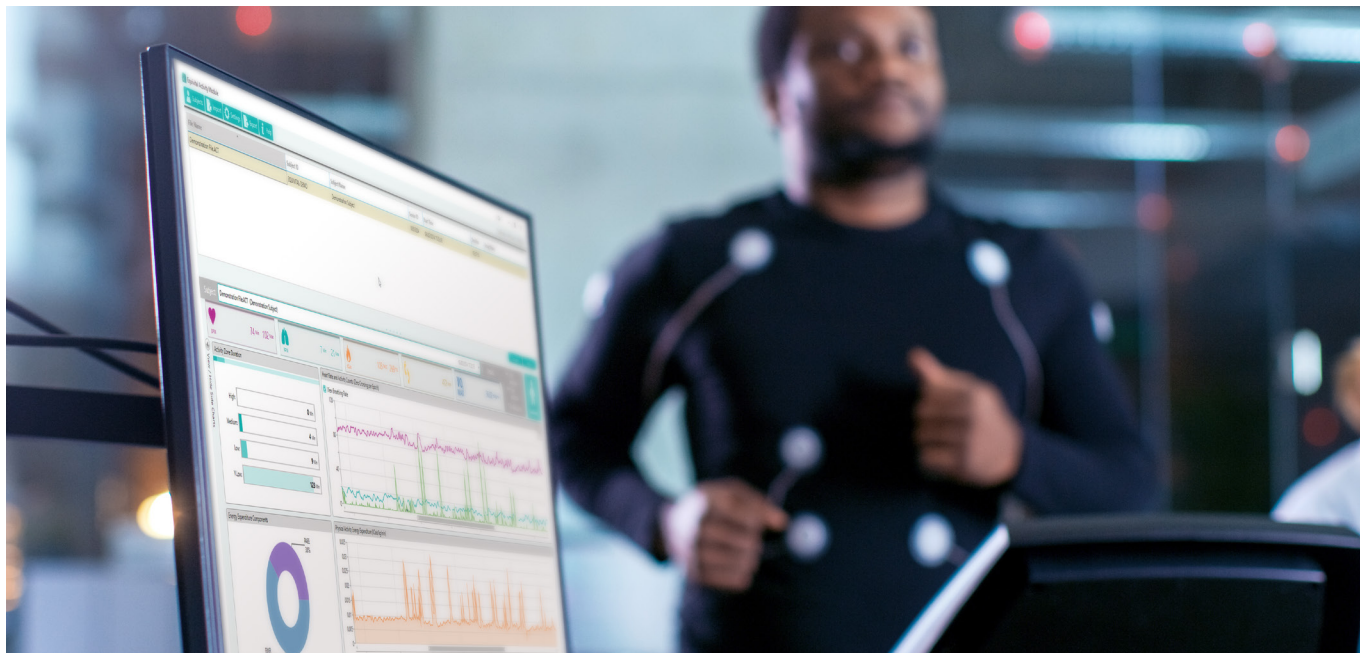
*Using 2 x AA Energizer Ultimate Lithium Batteries

Support

Support options to suit your needs

Equivital has multiple ways to assist you with your eq02+ LifeMonitor and chosen software solution.

With a team of experts on hand, either on the phone, over email or via our comprehensive web support system, where we have a library of support FAQ's, articles, videos and step-by-step guides to assist you in setting up and getting the most out of your data solution. Visit <https://support.equivital.com> to find out more.



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