

Technical Description

The Equivital™ Vital Signs Physiological Monitor is a non-invasive ambulatory wireless telemetry device intended to allow monitoring of a users vital signs physiology in environments where access to traditional clinical care facilities may be limited or impractical (for example in the workplace or outdoors) and justification exists for such monitoring.

The device maybe used by persons operating in circumstances where an increased risk of physical trauma exists due to the environment in which the user is placed. Typically, these environments may be found within personnel working in the military, public safety and hazardous plant workplaces.

The device may also be used as a general cardio respiratory monitor, in particular, where the compact and ambulatory characteristics of the device are advantageous. In addition, the device may also be used for the collection of ambulatory physiology for general research purposes in application such as sports or human performance medicine and research.

The device offers continuous monitoring of two views of the user's heart electrical activity (ECG) and respiratory breathing frequency inferred from thoracic cavity movement and uses this data to derive a Heart and Breathing Effort Rate.

The sensor also provides additional information:

- Physiological waveforms.
- an indication of the users activity level (none, low or high) derived from a movement detection sensor.
- body orientation.
- chest skin surface temperature.
- alternate secondary measurement of heart rate based on the detection of the users R wave using a separate hardware processing function.
- alternate secondary measurement of respiration effort using thoracic impedance pneumography.
- indications and alerts if physiology exceeds predefined boundaries.

The wireless data provided by the sensor may be viewed using a standalone PC based viewing application, or integrated into a broader care monitoring application. In the later application the system integrator is responsible for the end to end performance of the system and appropriate regulatory compliance.

It use within occupational welfare monitoring is intended as an addition to the deploying organisations established risk assement and welfare management procedures. The device is not intended to replace the need for such assessments to have occurred and appropriate procedures to be put in place.