Main Features

- Wrist worn light-weight activity monitor for ambulatory monitoring
- Recording of physical activity by means of an accelerometer
- Data transfer to a PC via a reader for analysis with custom activity and sleep analysis software
- Records for up to 180 days with a 1 minute epoch
- Versions available for measuring activity plus other parameters such as light and subjective scoring
- All recorded data is fully exportable

Applications

- Physical activity intervention studies
- Circadian rhythm research
- Detection of sleep disorders
- Numerous other applications

The Actiwatch® is a wrist-mounted device which detects and logs movement intensity and duration. The data is stored in the watch and can be downloaded to a PC for analysis. As such, it is a convenient tool for the ambulatory recording of either limb activity or general physical activity for clinical use and for research purposes.

Physical Activity

The activity plots coupled with specialised software serve to quantify the intensity and duration of daily physical activity as an indicator of a particular lifestyle or to monitor the effects on mobility of a medical condition as well as the efficacy of treatment for that condition.

Sleep

The AW is also useful for screening patients with suspected sleep disorders before resorting to tests in a sleep clinic.

The activity plots serve to analyse sleep-wake patterns, sleep efficiency and sleep fragmentation and to pinpoint some of the underlying causes of disturbed sleep such as Periodic Limb Movements in Sleep (PLMS) and Circadian rhythm disorders

Validation

The Actiwatch has been validated against direct observation for monitoring activity in children and against polysomnography for use in sleep studies. A full bibliography of papers published using the Actiwatch is available on our website.

Fields of Applications

The Actiwatch is in use in the fields of physical activity monitoring, sleep, respiratory medicine, paediatrics, psychiatry, health psychology, pain, Alzheimer’s & Parkinson’s medicine, dermatology and urology.

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<th>5 sec</th>
<th>10 sec</th>
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<td>Recording time</td>
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<table>
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<td>Recording time</td>
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<td>180 days</td>
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Technical Specification

- Weight: 10.5 grams*
- Battery life: 8 years
- Memory: 256 kB
- Waterproof: Yes^ tested to 6 BAR
- Warranty: 5 years*
- Size (mm): 39 x 32 x 9
- Epoch Range: 2s - 15min
- PC Analysis: Win® 2000/XP/Vista

*Bibliography

1. Kurosh Djafarian, Michelle Hession, John R Speakman, Diane M Jackson
   Comparison of activity levels measured by a wrist worn accelerometer and direct observation in young children.
   Submitted to Paediatric Exercise Science

   Comparison of actigraphic, polysomnographic, and subjective assessment of sleep parameters in sleep-disordered patients. Sleep Medicine 2 (2001) 389-396

Cambridge Neurotechnology Ltd.
Upper Pendrill Court, Ermine Street North, Papworth Everard, Cambridge UK
Tel: +44 (0)1480 831223 Fax: +44 (0)1480 831733
Email: admin@camntech.co.uk www.camntech.co.uk
Activity Measurement

Circadian Rhythm Analysis

Sleep Analysis

Bed Time Marker

Get-up Marker

Sleep latency

Bed Time – Sleep Start

Actual Sleep Time

Assumed Sleep - Actual Wake time

Fragmentation Index

No. of minutes moving % + Immobility of 1 min %