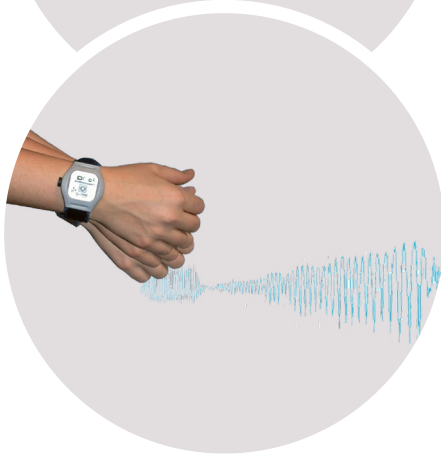


SMALL BUT MIGHTY. MODULAR, POWERFUL & VERSATILE.



SOMNOWatch™ plus is a powerful, miniaturized actigraph that is user-friendly and as comfortable to wear as a wristwatch. Connecting the external modules enables the **SOMNOWatch™ plus** to be used for advanced diagnostics such as PLM detection, for tremor analysis, as a 1-channel EEG or ECG and as a respiratory screener.



Actigraphy determination

- ◆ Application to the non-dominant arm for the detection of sleep/wake rhythm
- ◆ Recording of the activity in epochs of 1-120 sec. and display as an actigraphy profile
- ◆ Determination of Time in Bed (day / night) with an integrated ambient light sensor
- ◆ Recording of motor performance for:
 - Evaluation of circadian rhythm
 - ADHD diagnosis
 - Training, sports and rehab

Tremor analysis

- ◆ Frequency determination via FFT
- ◆ Simultaneous measurement of tremor on multiple limbs
- ◆ Determination of low- and high-frequency tremor and amplitude
- ◆ Graphical presentation of tremor frequency and intensity during the whole measurement

In combination with the 6-channel EEG headbox, the **SOMNOWatch™ plus** is one of the smallest mobile long-term EEG recorders on the market:

- 6 EEG + 1 EMG/ECG, continuous recording of impedance
- Also suitable as a sleep recorder: 4 EEG, 2 EOG, 1 EMG
- Display of impedances by colored LEDs
- ECG elimination
- Acoustic reproduction
- Up to 50 hours recording duration
- Compact headbox: 61 x 56 x 13 mm, 60g



validated *

PLM/RLS recorder

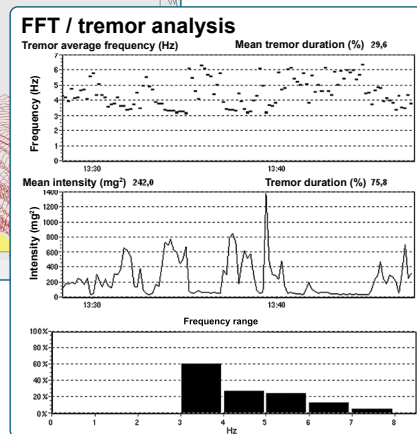
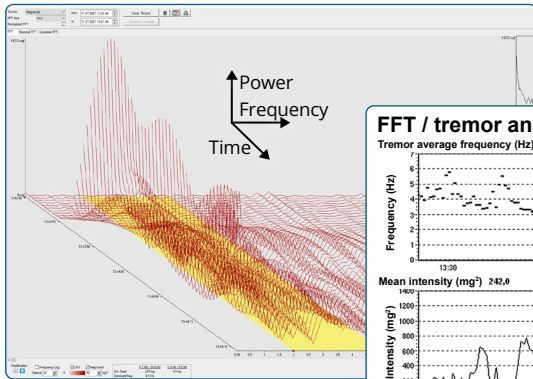
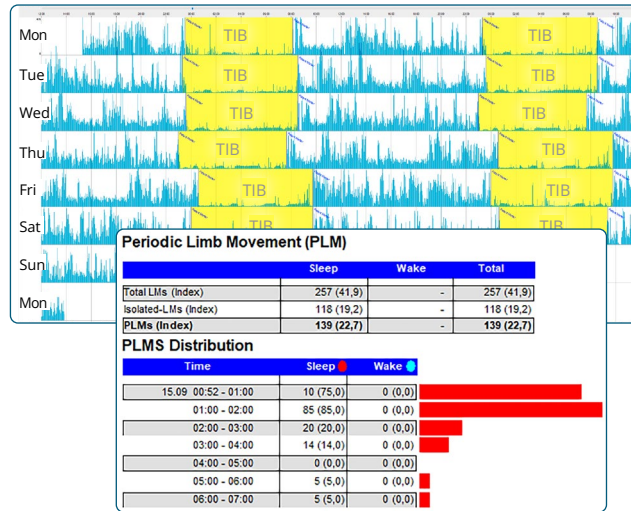
- ◆ Recording of leg movement on the ankle for up to 4 nights
- ◆ Optional: application of a 2nd sensor (EMG or activity) to detect the movements of both legs
- ◆ Integrated body position sensor for differentiation of upright and reclined position
- ◆ Software: Automatic detection of PLM movement patterns, automatic evaluation of the PLM index and of the RLS rating (restless legs syndrome)
- ◆ With the simultaneous use of the 1-channel EEG sensors: proof of the correlation of PLMs with cortical micro-arousals

*Benes H. et al, Validation of the new actigraphy system SOMNOWatch™ for the measurement of periodic leg movements, 2. World Sleep Congress (WASM), Bangkok (Thailand), 2007.

Analysis & reports

DOMINO light software

- ◆ Powerful analysis software for: respiratory analysis, PLM detection, sleep/wake determination, circadian rhythm, tremor analysis, sleep stage determination, EEG and ECG evaluation
- ◆ Editing of events in the raw data
- ◆ Automatic analysis of all standard signals
- ◆ Automatic detection of artifacts and generation of reports



Tremor analysis

- ◆ Graphic presentation of tremor frequency and intensity during the whole measurement duration, exact analysis of frequency by FFT
- ◆ Detailed display of frequency distribution (adjustable limits)

Overview



Technical specifications

7 internal channels

Body position, 3 activity sensors (x, y, z axis, magnitude), ambient light, patient marker

Up to 8 external channels via AUX connector

Data storage / data transfer

Recording duration up to 25 days, storage of the raw data at 256/32 Hz, data compression mode, adjustable sampling rate up to 128/s, 512 MB storage capacity

25
days

512
MB

Size and weight

45 x 51 x 15 mm, 30 g (incl. battery)

Handling: 2 colored LED

Power supply

rechargeable Li-Ion battery (630mAh)

Analysis software DOMINO light

The SOMNOwatch™ plus can be attached to your wrist, thorax or ankle - for whatever data you need!

Simplified sleep stage evaluation

Main device applied to the thorax belt, with an external 1-channel EEG sensor

Respiratory screening: flow/snore

Main device applied to the thorax belt with nasal/oral cannula and external flow sensor

CPAP control

Main device applied to the thorax belt with external flow sensor for CPAP control & CPAP connector *not shown in illustration*

Basic set „Actigraphy“

Analysis of activity and sleep/wake: apply to the wrist of the non-dominant hand.
For tremor analysis: apply to the wrist of the affected hand



Pediatric sensors available, can be used from the 1st month of life

Long term EEG measurement

Main device applied to the thorax belt with an external 6-channel EEG headbox (6 EEG, 1 EMG/ECG, ref., impedance), *not shown in illustration*

ECG analysis / Training control / rehab

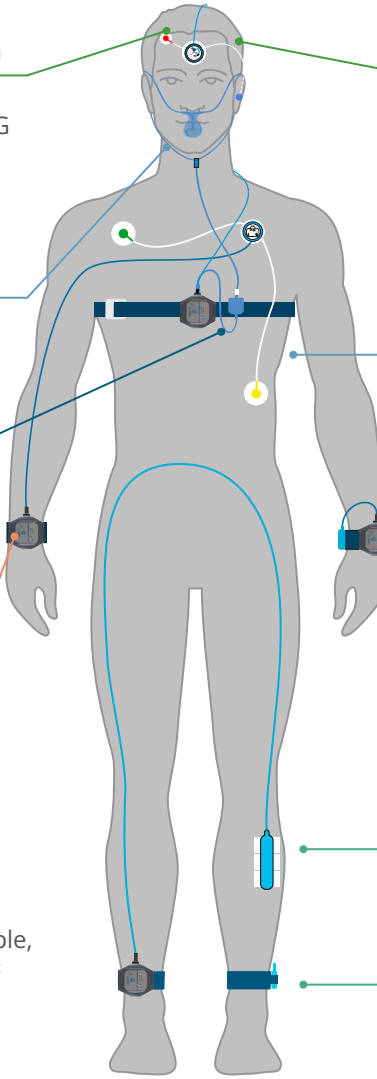
Main device applied to the thorax belt with an external ECG sensor for ECG and activity measurement

EDA: electrodermal activity

Measurement on the wrist of the non-dominant hand; with external EDA sensor

PLM / RLS analysis

Measurement on the foot strap with external PLM sensor (EMG) on the tibial muscle *or*
with external activity sensor on a second foot strap



SOMNOwatch™ plus - Available modules



Activity sensor
Recording of motor activity on a second limb with 3-axial activity sensor (x, y, z axis).



EMG sensor
Recording of the muscle activity of the tibial muscle in case of suspected PLM (Periodic Leg Movements).



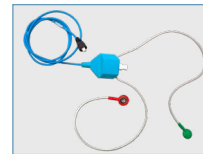
Respiratory module flow/snore
Detection of a correlation between snoring/apneas and body position or for therapy control.



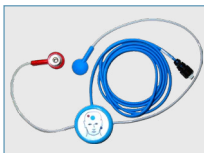
EDA sensor
Measurement of electrodermal activity, which allows insights about arousal reactions during sleep and subsequent activation of the sympathetic system.



1-channel ECG sensor
Recording of a modified ECG according to Einthoven II on the upper body. Recording of raw data for up to 11 days.



Combination module flow/snore
Simultaneous measurement of flow/snore and a 1-channel ECG; exclusively developed for a German cohort study.



Simplified sleep stage evaluation
1-channel EEG sensor (Fp2/M1) to correlate the sleep stages with the data from actigraphy and body position.



Headbox with 6-channel EEG
6 EEG + 1 ECG/EMG; can also be used for sleep staging: 4 EEG, 2 EOG, 1 EMG, continuous recording of impedance.