

SOMNOcheck micro

Compact screening device for the wrist

SOMNOcheck micro provides the simplest diagnostics for Sleep Disordered Breathing (SDB) with use of the signals pulse oximetry and (optionally) air flow. The innovative Pulse Wave Analysis (PWA)¹ differentiates between obstructive and central apnea and indicates the extent of sleep fragmentation. Results are displayed as soon as the recording ends. Even without a PC you can read the immediate risk assessment in the Red-Amber-Green display, followed by detailed results of the analysis.



SOMNOcheck micro, WM 94530, clear Red-Amber-Green display

Detailed results
AHI

Detailed results
AAI

SOMNOcheck micro is worn like a wristwatch. The screening device is so comfortable that it doesn't disturb the patient's sleep and so easy to use that the patient can manage it on his own. The software transfers the data via a USB interface to the PC, visualizes the recorded signals and the detected results. A clearly structured report is generated to document findings.

SOMNOcheck micro simplifies the way to obtain preliminary findings on a patient's sleep disorder so that the next diagnostic steps can be taken and, if necessary, referral to a sleep lab or sleep specialist can be made. With the increasing awareness of sleep's importance to general health, practitioners in varied medical fields are becoming interested in the potential uses of screening for Sleep-Disordered Breathing in internal medicine, cardiology, rehabilitation centers, neurological care units, dentistry and occupational medicine and anesthesiology.

- First-time recognition of central events by a small diagnostic device on the wrist
- Coherent traffic light function for quick interpretation
- Simple and fast identification of patients with increased risk of SDB
- Conclusions about sleep disorders based on arousals and autonomous RERAS
- Reliability through automatic qualitative self-evaluation of results
- Single-key operation: simple access to detailed results
- Functional check with online display of pulse and respiration
- Valid analysis: Sensitivity 96.2 %, Specificity 91.7 %³⁾
- Fast and simple documentation per report sheet
- USB interface for data download
- Software to visualize data
- Personalized, automated report to print, store, e-mail
- No maintenance, thanks to self-calibration

* Bibliography:

- ¹⁾ - Allen, Photoplethysmography and its application in clinical physiological measurement, *Physiol Meas* 28:R1-R39, 2007
- Haba-Rubio et al, Obstructive sleep apnea syndrome. Effect of respiratory events and arousal on pulse wave amplitude measured by photoplethysmographie in NREM sleep, *Sleep Breath*, 9: 73-81, 2005
- Lévy P, Pépin J.-L., Sleep fragmentation: clinical usefulness of autonomic markers, *Sleep Medicine* 4 (2003) 489-491
- Sommermeyer D, Grote L, Walter T, Schwaibold M, Schöller B, Hedner J, Automatische Apnoedifferenzierung anhand der photoplethysmographisch gemessenen Pulsweite, Abstract, DGSM Düsseldorf, 2007
- ²⁾ Hypopnea detection acc. to AASM criteria B (flow reduction by 50% and 3% desaturation or arousal)
- ³⁾ Sommermeyer D, Grote L, Walter T, Schwaibold M, Schöller B, Grote L, Hedner J, Bolz, A: Detection of sleep disorders by a modified Matching Pursuit algorithm, Congress proceedings 11th World Congress on Medical Physics and Biomedical Engineering, Munich, 2009



Accessories

- 1 Set of 100 nasal cannula, 90 cm
WM 94522
- 2 Softtip sensor with Minimed-plug (right-angled)
Size M: WM 94596, Size L: WM 94595
- 3 Wristband
WM 94560
- 4 Transport bag
WM 94055
- 5 Software SOMNOlab, now with SOMNOcheck micro edition
WM 98500

Our complete range of therapy solutions, accessories and mask systems is at: weinmann.de

Technical Data SOMNOcheck micro



Product class as per directive 93/42/EEC:	IIa	Temperature range	
Dimensions (W x H x D):	112 x 30 x 50 mm	■ Operation:	+5 °C to +40 °C
Weight		■ Storage:	-10 °C to +60 °C
■ without batteries:	79 g	■ Transport:	-10 °C to +60 °C
■ with batteries:	145 g	Pulse oximeter (Clipsensor)	
Power supply:	Type AA 2 batteries (about 15 hrs.) 2 NiMH rechargeable batt. (about 20 hrs.)	■ SpO ₂ measurement range:	45 to 100 %
		■ SpO ₂ accuracy	70 % < SpO ₂ < 100 %: better than 2 % accuracy SpO ₂ < 70 %: not validated
		■ Pulse rate measurement range:	30 to 250 bpm
		■ Pulse accuracy:	1 bpm to 2 % of displayed value

Window	Displayed Values	Source
Insufficient recording time in case neither pulse wave nor flow signal is available for at least two hours	Analysis time insufficient	Analysis of artefact-free time per signal
Risk of sleep disorder Display of whether the risk of sleep-disorder exists	Low / Medium / High Traffic light display: green, yellow, red	Analysis of results
Overview of respiratory events Apnea/Hypopnea Index Obstructive Apnea/Hypopnea Index Central Apnea/Hypopnea Index	AHI RDI OAHl ORDl CAHI CRDI	Flow signal: AHI. If this signal is flawed by artefacts, an RDI based on PWA is displayed
Overview of autonomous arousals Autonomous Arousal Index Respiratory autonomous Arousal Index Respiratory Effort-Related Arousal Index (autonomous)	AAI AAI resp RERAs	Pulse oximetry signal Pulse oximetry signal Pulse oximetry signal and flow signal
Overview of oxygen saturation Saturation index Average Minimum	Drops Average Min	Pulse oximetry signal
Miscellaneous Snore Average pulse Recording time	Snore Pulse av. Rec. time	Flow signal Pulse oximetry signal Analysis of artefact-free time
Artefact-free recording time If one of the two signals is present for less than four hours (i.e., many artefacts), a window opens to display how long which signal was artefact-free.	Flow Pulse	Analysis of artefact-free time per signal
Erase Data/Next calibration	To erase press button for 3 sec yyyy/mm/dd	Reminder for calibration every 2 years

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