



# Mobile Sleep Diagnostic System SOMNOlab 2

SOMNOlab 2 is the Weinmann mobile sleep diagnostic system. From classic cardio-respiratory polygraphy and supplemental electrophysiological signals to mobile polysomnography, SOMNOlab 2 provides complete integration with no need for external devices or cables. The system features simple application of sensors (for polygraphy the patient can do it himself), hardware durability and reliable results.

## SOMNOlab 2 effort

Use SOMNOlab 2 effort for your outpatient cardio-respiratory polygraphy to detect Sleep-Disordered Breathing (SDB).

### Measurement function in SOMNOlab 2 effort:

- Respiratory flow at mouth and/or nose, thoracic and abdominal breathing movements, snoring, heart rate, oxygen saturation, position, therapy pressure
- Integrated effort sensor (piezoelectric crystal technology)
- Integrated differential pressure measurement for high quality of ventilation of monitoring even with complex xPAP types of therapy
- Charge status indicator: No failures due to discharged batteries. Quick return to service: rechargeable batteries can be externally charged so usage is not restricted by charging time.



Example of use: Mobile titration including PSG for patient in hospital or at home.

## SOMNOlab 2 PG

The expanded polygraphy with SOMNOlab 2 PG captures another four configurable electrophysiological signals and thereby broadens usage and enhances the value of the clinical findings from nighttime recordings. An ECG can be made with high signal quality, for example, and a two-channel EMG can be recorded to provide neurological data associated with restless legs syndrome. The optional use of RIP sensors (respiratory induction plethysmography) raises the quality of the breathing movement signals. Furthermore, the Transferbox 2 permits integration of etCO<sub>2</sub> measurement in ventilation monitoring for the patient in hospital or at home.

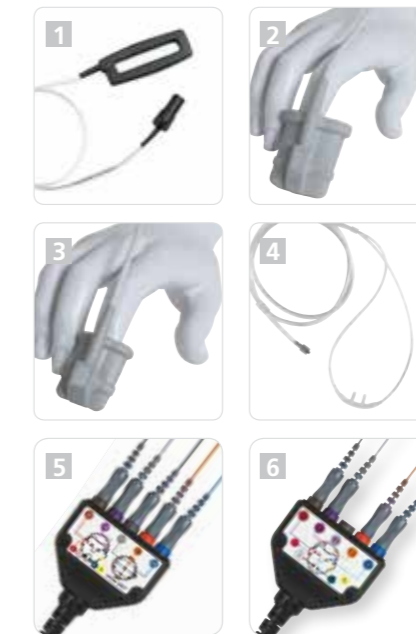
### The following apply to all variants:

- Hook-and-loop closures that are easy to use and impossible to mix up
- Battery with remaining charging time via software
- Rechargeable battery can be charged externally or on device
- USB connection to PC
- Two recording nights can be conducted with the same configuration.
- Integrated piezoelectric sensor delivers high-quality breathing effort signals.
- Optional RIP technology increases quality; for SOMNOlab2 PG and PSG only
- High-quality therapy monitoring with differential pressure measurement: signal quality comparable to pneumotachography, especially advantageous in cases of complex breathing patterns (BiLevel...)

## SOMNOlab 2 PSG

The SOMNOlab 2 PG can be upgraded to SOMNOlab 2 PSG with the addition of other electrophysiological channels. With use of R&K and AASM master cables, it is possible to conduct a mobile PSG with two (R&K) or three (AASM) EEG leads. The data are recorded for later manual or automatic analysis on a PC. At that point the respected ARTISANA analysis software from the proven Weinmann SOMNOlab sleep lab system comes into play. With use of the Transferbox 2, an outpatient recording can be expanded by two more external channels. Connection to therapy devices or additional diagnostic systems can be made via the analog port.

### Accessories SOMNOlab 2



1 Abdomen Sensor Loop	WM 95155
2 Soft-tip sensor Size L	WM 18035
3 Soft-tip sensor Size M	WM 18030
4 Respiratory flow - snore nasal cannula, package of 50	WM 94045
4 Set of 100 nasal cannula	WM 95222
■ Set of RIP belts	WM 15875
5 AASM master cable	WM 95205
6 R&K master cable	WM 95206
■ Master cable for 3-pin ECG lead	WM 95207
■ Master cable bracket	WM 95252
■ Set of SOMNOlab 2 PSG electrodes	WM 95233
■ R&K removable card for application	WM 95097
■ SOMNOlab 2 standard application sticker	WM 95238
■ SOMNOlab 2 reduced version application sticker	WM 95239

An extensive selection of electrodes and application accessories is available. SOMNOlab 2 PG can be upgraded to a PSG system.



### Supply Schedule SOMNOlab 2

SOMNOlab 2 effort, polygraphy, including all sensors	WM 95480
SOMNOlab 2 PG, expanded polygraphy, including all sensors and start-up package of electrodes	WM 95420
SOMNOlab 2 PSG R&K Set, including all sensors and start-up package of electrodes	WM 95400
SOMNOlab 2 PSG AASM Set, including all sensors and start-up package of electrodes	WM 95260
Transfer box 2	WM 95300
SOMNObutler mobile	WM 95359
Upgrade* Set R&K for SOMNOlab 2 PG	WM 95235
Upgrade* Set AASM for SOMNOlab 2 PG	WM 95256

\* Only in combination with a device-update. The device has to be sent to Weinmann (Henstedt-Ulzburg) for an upgrade.

The SOMNOlab 2 system's software allows you to set up the device to match your needs for measurement period and mode, report contents, the monitor display and much more.

### Software functionality in detail:

- Online presentation of measurement for signal monitoring
- Extensive automatic analyses
- Ready-made assembly and visualization, easily adapted
- Configurable presentation of signals, including filter
- Configurable report templates
- Filter and edit results over event list
- The automatic sleep stage analysis ARTISANA was validated in a European multi-center study<sup>1</sup>. The quality of ARTISANA is comparable to the quality of leading European sleep labs. The software is particularly transparent in that it reports its degree of certainty with the results.
- Only one software program is required for screening with SOMNOcheck micro and SOMNOcheck micro CARDIO, polygraphy with SOMNOlab 2 effort, expanded polygraphy with SOMNOlab 2 PG and polysomnography with SOMNOlab 2 PSG

<sup>1</sup>M. Schwaibold, Th. Ploch, W. Cassel, I. Th. Penzel, H.-F. Becker. Multicenter Study on the Variability of the Sleep Stage Scoring Algorithm ARTISANA compared to Human Experts - Part II: Validation Phase, Abstract ERS, 114s, P793, 2005



List of channels		SL2 eff	SL2 PG	SL2 PSG
Flow 1	Thermistor	1	1	1
Flow 2	Nasal cannula	2	2	2
Thorax movements	Thorax sensor, integrated;	3	3*	3*
Abdomen movements	Abdomen sensor in belt (*or optional RIP sensor)	4	4*	4*
SpO2	Integrated pulseoximeter	5	5	5
Plethysmogram		6	6	6
Pulse		7	7	7
Quality		8	8	8
Therapy(masks) pressure	Pneumo-T adapter, integrated differential pressure recorder	9	9	9
Leakage		10	10	10
Snore	Nasal cannula, microphone (snore) or Pneumo-T adapter	11	11	11
Respiratory frequency		12	12	12
Flattening		13	13	13
Postion	integrated position sensor	14	14	14
Heart rate	Electrodes on basic device (SL2PG) or on master cable (SL2PSG)	./.	15	15
ECG		./.	16	16
EOG		./.	17 to 19, free	17 to 24
EEG		./.		
EMG Chinn		./.		
EMG Legs		./.		
External channels		Transferbox 2	./.	20 - 26

Technical data SOMNOlab 2



<b>Product class as per directive 93/42/EEC</b>	IIa	<b>Respiratory flow-snore sensor</b>	<ul style="list-style-type: none"> <li>Flow method: 3 thermistors as summed signal, no measurement function at ambient temperatures between 33 °C and 38 °C</li> <li>Snore method: integrated microphone</li> </ul>
<b>Dimensions (W x H x D)</b>	80 x 150 x 34 mm	<b>Respiratory flow-snore-nasal cannula</b>	<ul style="list-style-type: none"> <li>Respiratory flow-snore-nasal cannula: inspiratory/expiratory pressure fluctuations pressure sensor</li> <li>Sensor: pressure sensor</li> <li>Flow method: flow approximation through rooting logarithmic mean of sound signal (microphone) or of pressure fluctuation (pressure sensor)</li> <li>Snore method: pressure sensor</li> </ul>
<b>Weight</b>	<ul style="list-style-type: none"> <li>SOMNOlab 2 effort: 220 g</li> <li>SOMNOlab 2 PG / PSG: 300 g</li> </ul>	<b>Respiratory flow-mouth-sensor</b>	Thermistor: to record mouth breathing or leakage
<b>Temperature range</b>	<ul style="list-style-type: none"> <li>Operation: +5 °C to +40 °C</li> <li>Storage: -10 °C to +60 °C</li> </ul>	<b>Therapy monitoring</b>	Pneumo-T adapter: therapy pressure and flow via differential pressure measurement
<b>Power supply</b>	<ul style="list-style-type: none"> <li>Mean power consumption: about 340 mW</li> <li>Battery operating time: about 20 h</li> </ul>	<b>Effort sensors</b>	<ul style="list-style-type: none"> <li>Thorax sensor: sensor integrated in housing</li> <li>Abdomen sensor: Housing can be disinfected, washable belt</li> <li>Method: piezoelectrical measurement</li> </ul>
<b>Signals/LEDs:</b>	battery charge and memory card status		
<b>Position sensor</b>	<ul style="list-style-type: none"> <li>Position sensor: sensor integrated in device</li> <li>Data scope: right side, left side, abdomen, back, standing</li> <li>Position accuracy: about 45° ± 15°</li> </ul>		



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