

Continuous cuffless 24h ABPM

Validated according to ESH international protocol 2010¹

EFFICIENT, COMFORTABLE, INNOVATIVE



INCLUDING:

**3 channel ECG,
oximetry and
activity monitoring**



Cuffless blood pressure reading with every heart beat

- Continuous systolic & diastolic blood pressure (in mmHg) reading, beat-to-beat
- Covers all real max. and min. BP values, especially during REM sleep
- Easy application with maximum comfort for the patient thanks to reactionless measurement without inflation of the cuff (PTT based)²
- Minimized deviation caused by body position changes

Holter ECG

- 3 channel ECG, 6 channel software display
- Display of max., min. and average heart rate, arrhythmia, bradycardia and tachycardia
- Full Holter ECG analysis with Schiller Software plug-in (optional)
- Stress report based on HRV

Oximetry

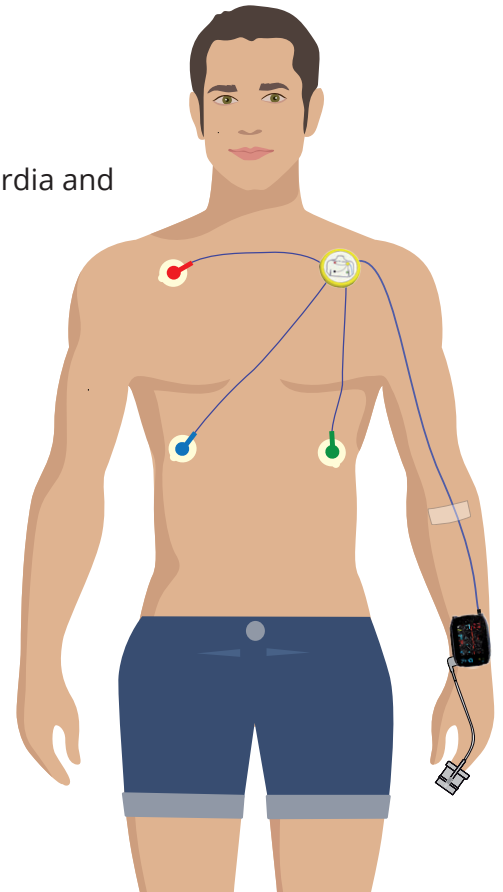
- Display of the blood oxygen saturation and pulse rate
- Correlation of nocturnal SpO₂ and nocturnal blood pressure
- Detection of respiratory based changes of the blood pressure (optional)

Actigraphy

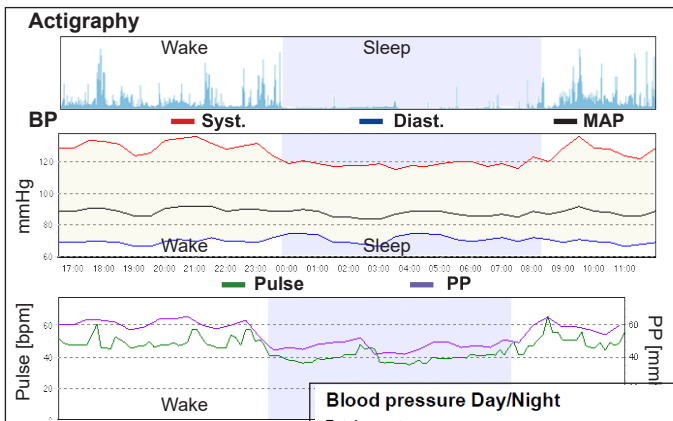
- Sleep / Wake determination with actigraphy
- Correlation of blood pressure values to physical activity

PWV

- Pulse Wave Velocity (PWV) as an indicator for arterial stiffness



Data analysis and report



Blood pressure Day/Night					
Total report					
	Min.	Aver.	Max.	SD	> Limit
Syst	110	125	170	9,2	33,8 %
Diast	61	72	80	3,4	0,6 %
Pulse	34	45	97	8,4	0,5 %
MAP	79	89	105	3,7	18,2 %
PP	32	54	97	9,8	41,4 %

Day/Night Dipping	
Syst	6,2 %
Diast	-4,3 %
Pulse	24,2 %
MAP	1,1 %

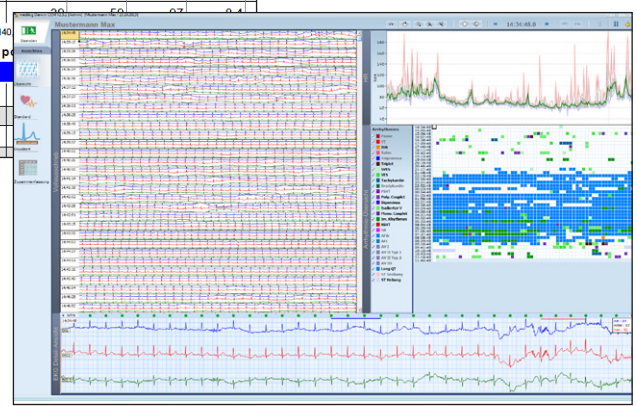
Day report				
	Min.	Aver.	Max.	SD
Syst	113	129	170	8,9
Diast	61	70	78	3,3
Pulse	40	50	97	7,7
MAP	79	90	105	4,1
PP	32	54	97	9,8

Blood pressure report

- Continuous 24h BP profile
- Automatic analysis of longterm BP values for normality, white coat syndrome and over night dipper status
- Detection of NBPF™ (Nocturnal Blood Pressure Fluctuations) as an indicator for cardiac stress³
- Determination of the superposition effect
- Sleep / wake allocation by actigraphy⁴

ECG report

- Full ECG analysis with Arrhythmia detection with Shiller Software plug-In (optional)
- Full integration into DOMINOLight software
- Stress report based on HRV
- Export to different file formats (EDF, SCP, ASCII, etc)



How does it work?

SOMNOmedics uses an innovative patented² algorithm to measure blood pressure via the Pulse Transit Time (PTT). The PTT is the time required for the pulse wave to propagate along the vessel wall, in the case of the SOMNOtouch™ NIBP, from the left ventricle of the heart to the fingertip.

Taking a one point calibration at the beginning of the sleep study allows us to set the software's algorithm – and measure blood pressure continuously throughout the night and day. Because every single pulse wave is detected, a continuous "Beat-to-Beat"- recording and analysis is possible.

Datasheet SOMNOtouch™ NIBP	
22 channels	6 internal (Body position, movement, SpO ₂ , pulse rate, plethysmography, patient marker) 2 AUX - up to 8 channels per external connector (e.g.: 3 channel ECG, flow, snore, blood pressure calibration)
Data collection / Data transfer	Data transfer via Bluetooth, wireless data transfer in realtime 12 bit signal resolution Individually adjustable recording rate from 4/s to 512/s
Data storage	internal data storage, 512 MB capacity Charging and data transfer via docking station
Size and weight	74 x 55 x 16 mm, 58g (incl. battery)
Display	high resolution, color touch display, resolution 320 x 240 pixels
Power supply	Li-Ion-battery (rechargeable), up to 26 hrs. recording duration
Analysis software DOMINO light	

¹Bilo, G., Parati, G. et al., Validation of the SOMNOtouch™ NIBP non-invasive continuous blood pressure monitor according to the European Society of Hypertension International Protocol revision 2010. Blood Pressure Monitoring. 2015

² Patent numbers: DE 102005014048.3-35, EP 20060001181.4-1526, US 11/364174 US 2006/0217616 A1, 7374542

³ Gehring, J., Gesche, H., Drewniak, G. et al. Nocturnal blood pressure fluctuations measured by using pulse transit time in patients with severe obstructive sleep apnea syndrome, Sleep Breath (2018) 22: 337. <https://doi.org/10.1007/s11325-017-1555-9>

⁴ Dick, R., et al., AASM standards of practice compliant validation [...] Physiological measurement, 2010. 31(12): p. 1623-33



From the thought leaders in measuring blood pressure during sleep

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