



# NIBP UP®

## OEM Module: NIBP 2020 UP Combi-board

*NIBP Module with SpO2 measurement for patient monitors*



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GERMANY



## Technical Specifications

Blood Pressure Measurement		
Measurement Method		oscillometric method with NIBP® UP inflation technology or classic deflation technology, selectable
Typical Measurement Time		17 s
Measurement Interval		1 – 90 min, programmable
Operating Modes		manual, long-term automatic, short-term automatic, service
Measurement Range		
Systole	(adults)	25 – 280 mmHg
	(neonates)	20 – 150 mmHg
Diastole	(adults)	10 – 220 mmHg
	(neonates)	5 – 110 mmHg
Pulse Rate		30 – 240 bpm
Accuracy Blood Pressure		+/-1 mmHg
Accuracy Pulse Rate		+/-2 bpm
Cuff		
Connection		metal-snap connection
Size		different sizes
Pressure		max. 300 mmHg
Oxygen Saturation		
Measurement Method		SMARTsat® SpO <sub>2</sub> technology
Sampling Rate		75Hz
Value Update		every 1, 2, 5 s
Sensor		SoftFlap® SF sensor
Measurement Range		
SpO <sub>2</sub>		0 – 100 %
Pulse Rate		20 – 300 bpm
Accuracy SpO <sub>2</sub>	(no motion)	+/-2 Arms
	(motion)	+/-3 Arms
Accuracy Pulse Rate	(no motion)	+/-3 bpm
	(motion)	+/-5 bpm
System		
Size (LxWxH)	(flat pump)	80 mm x 60 mm x 25 mm
	(round pump)	80 mm x 60 mm x 33 mm
Weight	(flat pump)	100 g
	(round pump)	120 g
Power Supply		+5 VDC (4,8VDC – 7 VDC) and max. 750 mA +12VDC (11 VDC – 13 VDC) and max. 530 mA
Interface to Monitor		
Transmission Standard		RS232-TTL level
Baud Rate		19200
Protocols		CAS (default), Colin, Suntech, Welch Allyn, Criticon, and others
Connection		10-pin twin-row plug for all connections
Maximum Operation Conditions		
Temperature Range		0°C to +45°C
Relative Humidity		15 – 95 % (non-condensing)
Luftdruck		700 – 1060 hPa

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*"A new Generation  
in patient-friendly  
blood pressure  
measurement!"*



*"Reliable to all  
international  
safety standards!"*

### **NIBP UP® Technology**

The new and innovative NIBP UP® technology by PAR Medizintechnik is a revolution in patient-friendly blood pressure measurement. The most important improvement of this technology is the blood pressure measurement during inflation of the cuff (inflation method or IMT). This measurement technique allows deflation immediately after reaching the systolic pressure and leads more than a halving of measuring time (17s with NIBP UP® instead of 40s with classic step deflation). Additionally a markedly reduction of the compressive load is reached. These changes are received very positively among clinicians and patients and result in a very high acceptance of patients.



### **Reliable Safety and Quality**

Clinical studies show high precision of measurement results and the feedback of our customers confirm comfort and accuracy of measurements. Our Modules have a 2-Controller, 2-pressure transducer and 2-valve design for full compliance with international safety standards.

With this product, customers can trust in the accustomed quality of PAR Medizintechnik as usual, leading to high life expectancy through tested and high-quality components.

#### **System Standards:**

DIN EN 60601-1 (2nd & 3rd edition)  
DIN EN 60601-1-2  
DIN EN 60601-1-6

#### **BP Measurements Standards:**

DIN EN 1060-3  
DIN EN 60601-2-30, 80601-2-30  
DIN EN ISO 81060-2

- > CE-certified
- > officially approved for measurements on adults and neonates
- > accuracy and reproducibility demonstrated in extensive clinical tests
- > measurement artifact suppression
- > long live span
- > NIBP UP® inflation mode and classic step deflation mode available

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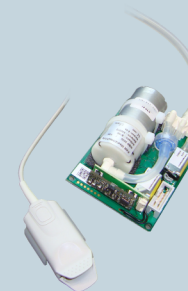
*"Comfort,  
quality  
and performance!"*



*"Flexible  
and  
easy to use!"*

### **SMARTsat® SpO2 technology**

The SMARTsat technology platform was developed over the last few years in close cooperation with well-established research institutions and university hospitals. The very latest and innovative signal processing technologies and algorithms enable precise measurements, even under very difficult physiological conditions. According to the ISO Standards, the approved pulse oximetry sensors are calibrated and evaluated against dyshemoglobin-free reference measurements, which were determined from CO oximeter data and do not contain saturation components of the hemoglobin fractions SaCO and SaMet.



### **SoftFlap® SF**

SoftFlap® sensors are the ideal solution for ambulatory use, or for long-term monitoring. Advanced manufacturing technologies, materials and design elements found their use in these sensors. Bluepoint® Soft Sensors are manufactured from premium materials and their design allows for effective high-level disinfection. This reduces the risk of nosocomial infection associated with surface-borne pathogenic microorganisms.

#### **SpO2 Measurements Standards:**

DIN EN ISO 80601-2-61

#### **SpO2 Sensor Standards:**

DIN EN ISO 10993-1  
DIN EN ISO 10993-5  
DIN EN ISO 10993-10

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