

ACCURATE, AFFORDABLE and yet COMPREHENSIVE.

Prime
Innovation
for Medical
Application




SPOTLIFE® SERIES

VITAL SIGNS MONITOR

ZUG
MEDICAL SYSTEMS



ALL PARAMETERS AT A GLANCE, EVEN GRAPHS AND TRENDS

SpO2 only (SPLF-OX)	SpO2 + NIBP (SPLF-NP)	SpO2 + Mainstream CO2 (SPLF-MC) SpO2 + Sidestream CO2 (SPLF-SE)
		
PARAMETERS		
SpO2	SpO2	SpO2
Pulse Rate	Pulse Rate	Pulse Rate (PR)
Perfusion Index	Perfusion Index	Perfusion Index (PI)
Photoplethysmogram	Photoplethysmogram	Photoplethysmogram
	Systolic blood pressure	End-tidal CO ₂ (EtCO ₂)
	Diastolic blood pressure	Inspired CO ₂ (FiCO ₂)
	Mean Arterial Pressure	Respiration Rate (awRR)
		Capnogram

OVERVIEW

Zug Medical System SpotLife® Vital signs monitor has been designed to serve frontline caregivers in emergency, perioperative care and ICU/NICU departments. With its accurate oximetry adapted for adult as well as neonate, it provides a continuous and accurate monitoring of the SpO2 and PR even in case of low perfusion. SpotLife® VSM is declined in versions with

either NIBP or CO2 measurement with optional fast temperature monitoring. Its handle and lightweight make it easy for transport use while its 4 stable feet allow a reliable use as bedside monitor. Cost effective, it remains a comprehensive device for multiple applications and environments.

FEATURES

- Bright, large 5" Color TFT LCD for better readability of all parameters
- Intuitive user interface
- Selectable Display modes:
 - digits only, showing parameters values
 - digits and graphs, showing real-time plethysmogram and capnogram/NIBP (according to model)
 - digits, graph and trends, displaying in addition the historical values.
- 9 LED indicators to easily control patient type, units, power and alarm status
- LAN connectivity to interface with central monitoring system (optional software to come).
- USB port for easy updates with new software
- functions (further connectivity and control options, addition of peripherals)
- New patient presets allowing a one step action to set all alarms limits according to patient type (Adult, Child, Neonate).
- 360° Visible and Audible alarms
- Over 72h trend data with a 1min resolution
- Built-in power supply and 2400mAh lithium battery for 6h continuous monitoring
- Bluetooth printer connectivity for record printouts (all models with option SPLF-PRT)
- Extension port upon request for custom protocols, raw data output for research and other device connectivity.

FUNCTIONS

- Oximetry (All models):**
 - Real-time measurement of SpO2, pulse rate (PR), perfusion index (PI), and Variability of Pulse Index (PIV).
 - Real-time photoplethysmogram display
 - High Motion Interference Rejection with advanced anti-movement algorithm
 - High accuracy and reliability even with low blood perfusion down to 0.05%, allowing application in OR, ICU and NICU.

For more information, please contact us: info@zugmed.com

- **NIBP (SPLF-NP model):**
 - o Measurement of Systolic BP, Mean Arterial Pressure, Diastolic BP using oscillometric method.
 - o 3 measurement modes such as manual, auto and continuous
 - o hardware and software over-pressure protection

- **Capnography (SPLF-SE and SPLF-MC models):**
 - o Measurement of EtCO2, FiCO2 and Respiratory Rate (awRR)
 - o Real-time capnogram display
 - o Automatic barometric pressure, temperature compensation and manual anaesthetic gases compensation
 - **Thermometry (For all models, Option SPLF-TF):**
 - o Body temperature measurement using Fast temperature probe

ENVIRONMENTAL CHARACTERISTICS

Operation	Storage
Temperature: -0°C ~ 40°C	Temperature: -20°C ~ 60°C
Humidity: 10% ~ 95%, non-condensing	Humidity: 10% ~ 95%, non-condensing
Atmospheric pressure: 70.0kPa ~ 106.0kPa	Atmospheric pressure: 57.3kPa ~ 106.0kPa

ELECTRICAL AND MECHANICAL CHARACTERISTICS

Electrical Power Supply	Battery
AC: 100 ~ 240V ± 10% (built-in adapter)	Built-in rechargeable lithium batteries:
Input power: 60VA	11.1 V / 2400mAh
Frequency: 50Hz/60Hz ± 3Hz	Mechanical
One equipotential grounding interface	Dimensions: 255*140*95mm (LxWxH)
Product Class: IIb (in accordance with MDD93 /42/ EEC)	Weight: <2 kg (without accessories)

INTERFACES

Connectivity	HMI
<ul style="list-style-type: none">• USB interface• RS232 interface• Connected to central monitor via RJ45 .• Bluetooth Printer• Ethernet Port	<ul style="list-style-type: none">• <i>Optional</i> : 6 models of configuration options• <i>Display</i>: 5" Color TFT LCD, 800 x 480pixels• <i>Audio/Visual Indicators</i>: Alarm limit reached, Alarm tone, Alarm mute, pulse strength, Patient name, Patient Type, Time, battery status, connection status.• <i>LEDs</i>: Adult, Neonate, Pressure Unit or SpO2/PR (according to model), battery in use, battery charging, silenced alarm.• <i>User Interface language</i>: English (additional language upon request).

PERFORMANCES

Oximetry (All models):

- SPO2: Measurement Range: 0 – 100%, Accuracy Range: 70 – 100 %, ±2% < 70%, Undefined, Resolution: 1%
- Pulse Rate: Measurement Range: 25-250 bpm, Accuracy Range: ±3%, Resolution: 1 bpm
- PI: Measurement Range: 0-20%, Resolution: 0.001%
- PIV: Measurement Range: 0-100%, Accuracy Range: Undefined, Resolution: 1%

NIBP

- o METHOD: *Automatic oscillometric*
- o OPERATION MODES: *Manual, Automatic, Continuous*
- o AUTOMATIC MODE MEASUREMENT INTERVAL: *1min/2min/3min/4min/5min/10min/15min/30min/60min/90min/2h/3h*
- o CONTINUOUS MODE MEASUREMENT PERIOD: *5mins, with 5s between each measurement*
- o MAXIMUM SINGLE MEASUREMENT TIME: *<120s*
- o MEASUREMENT RANGE: **Systolic BP:** *Adult mode:* 40 ~ 270 mmHg, *Pediatric mode:* 40 ~ 200 mmHg, **Diastolic BP:** *Adult mode:* 10 ~ 210 mmHg, *Pediatric mode:* 10 ~ 162 mmHg, **MAP:** *Adult mode:* 20 ~ 230 mmHg, *Pediatric mode:* 20 ~ 175 mmHg
- o ACCURACY: **Mean error:** *<±5mmHg, Standard deviation: <8mmHg*
- o STATIC PRESSURE MEASUREMENT RANGE: *0 mmHg (0kPa) ~ 300mmHg (39.9kPa)*
- o STATIC PRESSURE MEASUREMENT ACCURACY: *±2mmHg or ±1% of reading (Whichever is greater)*
- o RESOLUTION: *1 mmHg*
- o INITIAL INFLATION PRESSURE SETTING RANGE: *Adult mode:* 80 ~ 280 mmHg, *Pediatric mode:* 80 ~ 210 mmHg
- o INITIAL INFLATION PRESSURE DEFAULT: *Adult mode:* 160 mmHg, *Pediatric mode:* 140 mmHg
- o SOFTWARE OVER-PRESSURE PROTECTION: *Adult mode:* 297 ±3mmHg, *Pediatric mode:* 240 ±3mmHg
- o ALARM RANGE: **Systolic BP:** *Adult mode:* 40 ~ 270 mmHg, *Pediatric mode:* 40 ~ 200 mmHg, **Diastolic BP:** *Adult mode:* 10 ~ 210 mmHg, *Pediatric mode:* 10 ~ 162 mmHg, **MAP:** *Adult mode:* 20 ~ 230 mmHg, *Pediatric mode:* 20 ~ 175 mmHg

Capnography

- o METHOD: *Infrared radiation absorption technology*
- o CO2 MEASUREMENT RANGE: *0 ~ 20 Vol%*
- o ACCURACY: *0 ~ 12 %: ± (0.2 Vol% + 2% of reading), 12 ~ 20 % : ± (0.2 Vol% + 6% of reading)*
- o MEASUREMENT ACCURACY DRIFT: *accuracy requirements within 6 hours*
- o RESOLUTION: *0.1 Vol%*
- o ACCURACY: **Mean error:** *<±5mmHg, Standard deviation: <8mmHg*
- o APNEA ALARM DELAY TIME: *20s, 25s, 30s, 35s, 40s, 45s, 50s, 55s, 60s*
- o ALARM RANGE: *EtCO2: 0 ~ 150mmHg, FiCO2: 0 ~ 150mmHg, awRR: 0 ~ 150rpm*

Battery

Thermometry

- o METHOD: *Infrared non-contact forefront measurement*
- o TEMP MEASUREMENT RANGE: *34 ~ 42.9 °C*
- o ACCURACY: *34.0 ~ 34.9 °C ± 0.3 °C, 35.0 ~ 42.0 °C ± 0.2 °C, 42.1 ~ 42.9 °C ± 0.3 °C*
- o RESOLUTION: *0.1 °C*
- o ALARM RANGE: *34 ~ 42 °C*

ORDERING

Descriptions

- o *SpotLife® Oximeter Only, with Adult SpO2 reusable probe*
- o *SpotLife® Oximeter and NIBP, with Adult SpO2 reusable probe and Adult NIBP Cuff*
- o *SpotLife® Oximeter and Mainstream CO2 sensor, with Adult SpO2 reusable probe, one set of adult and neonate reusable airway adapters*
- o *SpotLife® Oximeter and External Sidestream CO2 sensor, with Adult SpO2 reusable probe, CO2 microstream canula.*
- o *Optional non contact infrared Fast TEMP probe with cable*
- o *Optional Bluetooth thermal printer with one thermal paper roll*
- o *Optional Roll stand fixed height, locking wheels, with basket, with or without tilt*