

vsign200

vsign200 is a small size, light weight (1.9 kg/4.2 lbs) and reliable (shockproof and waterproof) patient monitor. Its design makes patient care efficient in non-acute clinical environment, but is suitable also for the quick capture of vital signs in emergency care.

Car adaptor and ambulatory mount bracket specially designed for vsign200 are available to meet the need in ambulance.

An high capacity rechargeable battery (up to 10 hours) is available as optional, to support the outdoors rescue without AC power supply.

vsign200 has a lot of configuration options to meet the different requirements of end users.

Its main features are:

- LCD+LED display: high resolution, no distortion, high brightness, great view angle LCD.
- Easy operation with control knob.
- Portable structure.
- Non-invasive blood pressure measurement based on oscillometric method. Specific modes for adult, paediatric and neonate respectively.
- Dual wave length (red and infrared) method for SpO2 measurement.
- Modularized design. Easy for maintenance.
- Monitoring multi-parameters simultaneously, alarm signals will be raised when a parameter overlaps its limit.
- Waves and parameters will be saved when there is a alarm, 3500 groups of alarm data can be saved at most.
- All alarm records can be reviewed afterwards.
- No increased leakage current when some instruments connected together.
- Powered with AC power, internal battery or vehicle DC power supply, the optional high capacity internal Li-ion battery can support 10 hours of normal working.
- Drop proof design, helpful for first aid medical services.
- Waveforms can be freezed and saved, and SD card can be used for data storage.
- One-channel standard ECG monitoring system. Isolated and floaty electrical amplifier is used in ECG system for safety.
- Capable of displaying the ECG signal in the presence of pacemaker pulses with amplitudes 2mV
- The monitor has a defibrillator protection for the ECG, and the ECG module is of 'defibrillator CF type'.
- Several different types of temperature probes can be selected.

vsign200



CE
0476

vsign200 can be configured with several function modules which supports the monitoring of the following physiological parameters:

- ECG Electro-Cardio Graph, 3/5 leads selectable,
- NIBP Non-Invasive Blood Pressure, Oscillometric method, SYS/DIA/MAP
- SPO2 Saturation of Pulse Oxygen, Golden standard module supported
- RESP Respiration, thorax impedance method with ECG
- TEMP Temperature, Fast detect module selectable

Intended use

vsign200 patient monitor is intended to be used in a hospital clinical area such as intensive care units, cardiac care units, operation room, emergency department, to provide additional information to the medical and nursing staff about the physiological condition of the patient. It must be operated only under regular supervision of clinical personnel. The intended location of use is clinics. It is not recommended to use in a patient's home or residence, or when it has not been ordered by a physician.

vsign200



Technical specifications

Display	LED+3.2" TFT LCD (320x240)
Input interface	ECG, NIBP, SPO2,TEMP
Output interface	Printer port, Network port
AC power supply.....	Input Voltage: 100V~240V (±10%) Frequency: 50/60Hz(±3Hz) Power: ≤40VA Fuse: T2A
Internal battery input	Type: Rechargeable Lithium battery Output Voltage: 6.4V~8.4V Capability: 4400mAh Charge time: Less than 6 hours when the monitor is on
Runtime Environment Requirements	Temperature: 0 ~ 40°C (32°F ~ 104°F) Relative humidity: ≤95% (non-condensing) Air pressure: 70kPa ~ 106kPa Other: Drafty and without corrosive gas
Transportation and Storage Environment Requirement	Temperature: -40°C ~ 55°C (-40°F ~ 131°F) Relative humidity: ≤95% (non-condensing) Air pressure: 16.5kPa ~ 106kPa Other: Drafty and without corrosive gas
Size.....	250mm × 180mm × 180mm
Weight.....	2.0 kg (with battery)

ECG

Lead.....	3 leads(RA,LA,LL) / 5 leads(RA,RL,LA,LL,V)
Lead system option.....	monitoring lead / standard lead
Gain	5mm/mv, 10mm/mv
Sweep speed	12.5mm/s, 25mm/s, 50mm/s
Wave gain.....	5%
Range of heart rate.....	Adult: 20~300bpm Neonate/Paediatric: 20~350bpm
Resolution.....	1 bpm
Precision	20~200bpm: 5% or ±5bpm whichever is greater 201~350bpm: 10%
Alarm setting.....	The limit of alarm (setup range :20~350 bpm), and leads-off alarm display.
Alarm method	Alarm with sound and lights, and record the data during alarm for the review.
Input resistance	≥ 5 MΩ
CMRR	≥ 89 dB
S-T detecting range	-1.00~1.00mv
Heart disorder analysis	No
Anti-polarized voltage	±500 mV
Baseline renewing time.....	<5 s after the defibrillation
ECG mode	mode 1, mode 2, mode 3
Frequency characteristic.....	0.67Hz~40Hz
Safeguard	4000V high voltage isolation, anti-defibrillation

NIBP (3F)

Method.....	Oscillometric
Patients.....	Neonatal, paediatric and adult patients
Measurement Modes	Manual: Adaptive or preset cuff inflation Automatic: Host controlled (1-90 minutes as selected by host) STAT: Restarts a new measurement after 5 or 10 second pause (host selectable); terminates after 5 minutes Test Mode: Cuff pressure will be hold after inflation for test

vsign200



Data unit	mmHg / kPa optional
Data storage/review	4000 groups of NIBP results at most
Alarm setup.....	The range is the same as parameter measurement range of SYS, DIA, MAP
Alarm method	Alarm with sound and lights, and record the alarm status for review
Measuring range:	
Adult Mode	SYS 40~260 (mmHg)
	DIA 20~200 (mmHg)
	MAP 26~220 (mmHg)
Paediatric Mode	SYS 40~160 (mmHg)
	DIA 20~120 (mmHg)
	MAP 26~133 (mmHg)
Neonate Mode.....	SYS 40~130 (mmHg)
	DIA 20~100 (mmHg)
	MAP 26~110 (mmHg)
Resolution.....	1 mmHg
Transducer Accuracy.....	±3 mmHg over full range
Overpressure protection	Adult/Paediatric Mode: 290(mmHg)
	Neonate Mode: 150(mmHg)
Pulse Rate Range.....	30~220 BPM
Pulse Rate Accuracy	±2% or ±3 BPM, whichever is greater

NIBP (Suntech)

Method of Measurement.....	Oscillometric. Diastolic values correspond to Phase 5 Korotkoff sounds.
Patients.....	Neonatal, paediatric and adult patients
Measurement Modes:	Manual: Adaptive or preset cuff inflation
	Automatic: Host controlled (1-90 minutes as selected by host)
	STAT: Restarts a new measurement after 5 or 10 second pause (host selectable); terminates after 5 minutes
	Test Mode: Cuff pressure will be hold after inflation for test
Data unit	mmHg / kPa optional
Data storage/review	4000 groups of NIBP results at most
Alarm setup.....	The range is the same as parameter measurement range of SYS, DIA, MAP
Alarm method	Alarm with sound and lights, and record the alarm status for review
Measuring range.....	
Adult Mode	SYS 40~260 (mmHg)
	DIA 20~200 (mmHg)
	MAP 26~220 (mmHg)
Paediatric Mode	SYS 40~160(mmHg)
	DIA 20~120(mmHg)
	MAP 26~133(mmHg)
Neonate Mode.....	SYS 40~130(mmHg)
	DIA 20~100 (mmHg)
	MAP 26~110 (mmHg)
Resolution.....	1 mmHg
Pulse Rate Range.....	30 to 220 BPM (Beats Per Minute)
Pulse Rate Accuracy	± 2% or ± 3 BPM, whichever is greater
Cuff Deflate Rate	Deflation step size varies with heart rate, cuff pressure and cuff volume
Initial Inflation Pressure	Adult: 160 mmHg (default), variable from 120 to 280 mmHg
	Paediatric: 120 mmHg (default), variable from 80 to 170 mmHg
	Neonate: 90 mmHg (default), variable from 60 to 140 mmHg

vsign200



Clinical Accuracy	Meets accuracy requirements of ANSI/AAMI SP10: 1992 and 2002.
Transducer Accuracy	± 3 mmHg between 0 mmHg and 300 mmHg for operating conditions between 0°C and 50°C.
Recommended Frequency of Pressure Transducer Calibration.....	The Pressure Transducer calibration should be verified on a yearly interval.
Operating Conditions	0°C to 50°C, 15% to 95% non-condensing humidity
Storage Conditions	-20°C to 65°C, 15% to 95% non-condensing humidity
Altitude.....	Measurement accuracy is not affected by altitude
Startup Initialization Period	7 seconds
Patient Safety	Internal operating software ensures that: <ul style="list-style-type: none"> • Maximum cuff inflation time is limited to 75 seconds • Duration of blood pressure reading is limited to 130 seconds (Adult mode) 120 seconds (Adult Motion Tolerant mode) 90 seconds (Paediatric mode) 75 seconds (Neonate mode) Additional redundant safety circuitry oversees normal operation and will override to abort a reading if: <ul style="list-style-type: none"> • cuff pressure exceeds 300 mmHg (Adult & Paediatric modes) or 150mmHg (Neonate mode) at any time • the cuff has been inflated for 180 seconds (Adult & Paediatric modes) or 90 seconds (Neonate mode) The Module meets all relevant parts of the following Safety Standards: <ul style="list-style-type: none"> • IEC60601-1:1997 • IEC/EN60601-2-30:1999/2000 • AAMI SP10:1992/2002 • EN1060-1:1996 • EN1060-3:1997

vsign200

SPO2

Measuring method	Dual wave length infrared wave
Measuring Range	0~100%
Alarm setup range	70~100%
Resolution.....	1%
Precision	$\pm 2\%$ (70~100% adult/ Paediatric)
	$\pm 3\%$ (70~100% neonate)
	Unspecified (0~69%)
Pulse rate:	
Measuring Range	20~250bpm
Alarm setup range	20~250bpm
Precision	± 3 bpm (Geostationary) or ± 5 bpm (Campaign)
Sweep speed	12.5mm/s, 25mm/s
Alarm setup.....	SpO2 overruns, pulse rate overruns
Alarm method	Alarm with sound and lights, and record the alarm status for review

RESP

Measuring method	The thorax impedance method (used with ECG leads)
Measuring range	15 ~ 120rpm
Resolution.....	1 rpm
Precision	The bigger one between ± 2 rpm or $\pm 2\%$
Alarm setup.....	Respiration rate overruns, asphyxiation
Alarm method	Alarm with sound and lights, and record the alarm status for review

TEMP (Conventional Surface Probe)

Channel	1
Measuring mode	Thermal
Measuring and Alarm Range	0 ~ 50°C (32~122°F)
Resolution.....	0.1 °C



Precision ± 0.1 °C
 Actualization interval 1 (Sec.)
 Average time constant < 10 (Sec.)
 Data unit °C/°F

TEMP(Infrared probe)

Measurement range 34°C~42.2°C (93.2°F ~108°F)
 Resolution 0.1°C
 Measurement accuracy ≥36°C~≤39°C: ±0.2°C
 <36°C~ ≥34°C and >39°C~≤42.2°C: ±0.3°C
 Measurement time ≤1s
 Measurement interval ≤10s
 Environment requirements Temperature: 10°C~40°C(50°F ~104°F);
 Relative humidity: ≤80%
 Power supply of module Power supply: DC3V button lithium battery
 Power consumption: ≤20mW
 Auto power off time: 60s±10s
 Module size 140mm×38mm×30mm
 Module weight about 70 g

vsign200



Versions

<i>Cod.</i>	<i>Description</i>
M10-00-006	vsign200a (NIBP+SpO2)
M10-00-007	vsign200b (NIBP+SpO2+Temp)
M10-00-008	vsign200c (NIBP+SpO2+Temp+ECG+Resp)

Standard accessories (**vsign200a + b**)

<i>Cod.</i>	<i>Description</i>	<i>Qty</i>
	User manual	1
	vsign200 main unit	1
M64-52-060	vsign200 NIBP air hose with connector	1
M64-52-110	vsign200 Adult Cuff (26-36cm)	1
M64-50-010	vsign200 Adult SpO2 finger cl. probe	1
M10-70-060	vsign200 Li-ion Battery (5 hour)	1

Standard accessories (**vsign200c**)

<i>Cod.</i>	<i>Description</i>	<i>Qty</i>
	User manual	1
	vsign200 main unit	1
M64-52-060	vsign200 NIBP air hose with connector	1
M64-52-110	vsign200 Adult Cuff (26-36cm)	1
M64-50-010	vsign200 Adult SpO2 finger cl. probe	1
M10-70-060	vsign200 Li-ion Battery (5 hour)	1
M64-51-012	vsign200 ECG Cable 3 lead button IEC	1
	ECG electrodes	10

Options

<i>Cod.</i>	<i>Description</i>
M54-30-010	vsign200 RJ45 Communication option
M10-13-010	vsign200 Wi-Fi Communication option (Embedded)
M10-55-000	vsign200 rtp60 thermal printer

vsign200



CE
0476

Accessories

<i>Cod.</i>	<i>Description</i>
M10-70-060	vsign200 Li-ion Battery (5 hour)
M10-70-061	vsign200 Li-ion HC Battery (10 hour)
M10-45-130	vsign200 DC Cable (12 - 24V)
M10-55-000	vsign200 RTP60 Thermal Printer
M64-76-030	vsign200 Thermal Paper 4 Rolls/Pack
M10-78-000	vsign200 5-Wheel Trolley for IRIS
W60-88-090	vsign200 New EZ - Easy mount
Z01-00-000	vsign200 Wall Mount Bracket
Z03-00-000	vsign200 Ambulatory Mount Bracket
Z02-00-000	vsign200 Bedrail Clamp Bracket
M10-97-030	vsign200 dedicated Carrying Bag
M64-53-110	vsign200 Skin Temp Probe
M64-53-120	vsign200 Rectal Temp Probe
M64-53-130	vsign200 Infrared Ear TEMP Probe
M58-15-000	vsign200 Oral TEMP Probe
M64-76-040	vsign200 Ear TEMP disp. covers (20 pcs)
M64-52-060	vsign200 NIBP air hose with connector
M64-52-110	vsign200 Adult Cuff (25-36cm)
M64-52-012	vsign200 Large Adult Cuff (32-43cm)
M64-52-120	vsign200 Pediatric Cuff (9-12cm)
M64-52-130	vsign200 Infant Cuff (10-19cm)
M64-52-140	vsign200 Neonatal Cuff (6-11cm)
M64-50-010	vsign200 Adult SpO2 finger cl. probe
M64-50-020	vsign200 Adult SpO2 finger wrap probe
M64-50-030	vsign200 Pediatric SpO2 finger cl. probe
M64-50-040	vsign200 Neonat. SpO2 finger wr. probe
M64-50-060	vsign200 Adult SpO2 Finger Cl. DB9 Port
M64-50-081	vsign200 SpO2 Extens. cable DB9 port
M64-50-070	vsign200 dispos. adhesive SpO2 sensor
M64-51-112	vsign200 ECG Cable 3 lead button AHA
M64-51-012	vsign200 ECG Cable 3 lead button IEC
M64-51-011	vsign200 ECG Cable 5 lead button AHA
M64-51-111	vsign200 ECG Cable 5 lead button IEC
66030035C	Disposable snap electrodes, 25 pcs

vsign200



CE
0476