



CE
0434

Multi-Parameter Patient Monitor



Features

- 12.1" Large-screen Color TFT Display
- Windows interface, Easy to control
- Optional Chinese and English, Multi-language
- Adjustable colors for parameter data and curve
- S-T segment analysis
- Arrhythmia analysis
- Pacemaker analysis
- oxyCRG interface
- Drug dose calculation
- Full functions: Alarming volume, knob volume, HR volume, voice/light alarm, screen brightness adjustable
- Various interfaces: Standard interface, Trends Graph review interface, oxyCRG interface, big font interface, View bed interface
- Patient data record

- Maximum 96 hours storing and replaying of trends graphic
- Maximum 90 minutes capturing and replaying of ECG waveform waveform
- NIBP List record time: 400 groups of NIBP storage, can be recalled and printed
- Waveform record time: 4 minutes of ECG waveform storage, can be recalled and printed, offer power off protection
- 2 hours Short Trend interface
- Optional built-in thermal recorder, real waveform and clinical data recording
- IP network interface, compatible with central monitoring system.
- Wire and wireless network available, support maximum 128 units patient monitors

Safety

- ISO 13485:2003 approved, CE marking according to MDD93/42/EEC

Operation Environment

- Power: AC100-250V, 50/60Hz
- Temperature: 0 - 40°C
- Humidity: 15 - 85%
- Patient Range: Adult, Pediatric, Neonate

Physical Characteristics

AV-9000B

- Inner size: 320mm x 170mm x 280mm
- Carton size: 520mm x 300mm x 420mm Dimension: 0.07m³
- gross weight: 9.5kg
- net weight: 6kg
- chargeable weight: 12.5kg

AV-9000D

- Inner size: 320mm x 170mm x 280mm
- Carton size: 420mm x 320mm x 400mm Dimension: 0.06m³
- gross weight: 9.5kg
- net weight: 6kg
- chargeable weight t: 10kg

AV-9000B and AV-9000D

AMBISEA[®]
TECHNOLOGY

Performance Specifications

- Display: 12.1" color TFT (diagonal)
- Rolling and refreshing waveform display
Resolution: 800x600
- Multi displays selectable, including:
 - Standard display
 - Freeze display
 - Large-font Display
 - Trend coexist display
 - Alarm limit display
 - OxyCRG dynamic view display
 - Bed-to-bed view display
 - Multi-lead and ECG simultaneous display
- Trace: 7 waveforms
- Sweep Speed: 12.5mm/s, 25mm/s, 50mm/s
- Indicator: Power indicator light / Battery indicator light
- Interface: Parameter cable interface
 - AC Power input socket
 - Network interface
 - External VGA interface for connection of an
 - Alternate Display
- Battery: Lithium-ion battery / Rechargeable
 - Maximum 12 hours for charging;
 - AV-9000B: 6 hours for continuous working
 - AV-9000D: 3 hours for continuous working
- Trend time: 1 ~ 96 hours
- Alarm: User-adjustable High and Low limits audible and visual alarm
- Networking: Connected to central monitoring system
- Recorder: Built-in, thermal array
 - Waveform: 2 channels
 - Record mode: manual, on alarm, time-defined, etc
 - Paper width: 50mm
 - Print speed: 12.5 mm/s, 25mm/s, 50mm/s

ECG

- HR and Alarm Range:
 - Adult 15 ~ 300bpm (beats per minute)
 - Newborn/children 15 ~ 350bpm
- Accuracy: $\pm 1\%$ or $\pm 1\text{bpm}$, whichever is greater
- Resolution: 1 bpm
- Sensitivity: $> 200\mu\text{V}$ (P-P value)
- 5 Lead cable and 3 lead cable, selectable
 - 5 leadwire cable: RA; LA; RL; LL; V or R; L; N; F; C
 - 3 leadwire cable: RA; LA; LL or R; L; F
 - Lead selection: 12-Lead I; II; III; aVR; aVL; aVF; V1-V6.
 - 5-lead: I; II; III; aVR; aVL
 - 3-lead: I; II; III
 - ECG waveform: 2 channels

- Electrode desquamated indicator: automatic detection
- Gain selection: x1/4, x1/2, x1, x2, automatic
- Sweep speed: 12.5mm/s, 25mm/s, 50mm/s
- HR alarming time: $\leq 12\text{s}$
- ECG noise level: $\leq 30\mu\text{V}$ (P-P value)
- ECG input loop current: 0.1 μA
- Input impedance: $> 5\text{M}\Omega$
- CMRR: $\geq 80\text{Db}$
- Time constant: Monitoring mode $\geq 0.3\text{s}$; Diagnostics Mode $\geq 3.2\text{s}$
- Anti-jamming: line frequency, electrosurgical interference and defibrillation
- ECG cable: standard configuration - ECG cable for Adult
- Alarm setting: Adjustable from lower to upper and automatic memory

SPO2

- Display:
 - SPO2 digital
 - pulse columnar graphics
 - volume waveform
 - pulse rate
- Measurement range: 0 ~ 100%
- Alarm range: 0 ~ 100%
- Resolution: 1%
- Accuracy:
 - 70 ~ 100% $\pm 2\%$
 - 0% ~ 69% unspecified
 - When SPO2 rate is lower than 70%, it can be normally display, but no accuracy required.
- Pulse Rate range: 20 ~ 300 bpm
- Pulse Rate Accuracy: $\pm 3\text{bpm}$
- SPO2 sensor:
 - standard: Adult
 - optional: Pediatric and Neonate
- Alarm setting: Adjustable from lower to upper and automatic memory

Nellcor SpO2 (Optional)

- Measurement range: 0 ~ 100%
- Resolution: 1%
- Accuracy:
 - $\pm 2\%$ (70-100%, MAX-A, MAX-AL, MAX-N, MAX-P, MAX-I and MAX-FAST sensors);
 - $\pm 3\%$ (70-100%, D-YS, DS-100A, OXI-A/N and OXI-P/I sensors);
 - 0-69% unspecified
- Alarm range: 0 ~ 100%
- Pulse rate: - Range: 0 ~ 254bpm
 - Resolution: 1bpm
 - Accuracy: $\pm 3\text{bpm}$
 - Alarm range: 0 ~ 254bpm

NIBP

- Measurement method: Automatic vibration
- Measurement types:
 - Systolic
 - Diastolic
 - Mean
- Work mode:
 - Manual
 - Automatic
 - STAT (Continuous)
- Auto measurement time: Adjustable 1min-480min selectable
- Measurement unit: mmHg / KPa selectable
- Measurement range:
 - Adult Mode:
 - . Systolic pressure 40 ~ 270mmHg
 - . Diastolic pressure 10 ~ 215mmHg
 - . Mean pressure 20 ~ 235mmHg
 - Pediatric Mode:
 - . Systolic pressure 40 ~ 200mmHg
 - . Diastolic pressure 10 ~ 150mmHg
 - . Mean pressure 20 ~ 165mmHg
 - Neonatal Mode:
 - . Systolic pressure 40 ~ 135mmHg
 - . Diastolic pressure 10 ~ 100mmHg
 - . Mean pressure 20 ~ 110mmHg
- Alarm type:
 - Systolic pressure
 - Diastolic pressure
 - Mean pressure
- Accuracy: ± 3 mmHg
- NIBP pressure range: 0 ~ 300mmHg
- Over-pressure protection
 - Adult mode: 300 mmHg
 - Pediatric mode: 240mmHg
 - Neonatal mode: 150 mmHg
- Over-pressure protection mode: hardware and software double protection way
- NIBP cuff
 - Standard: Adult NIBP cuff
 - Optional: Pediatric and Neonatal NIBP cuff
 - Alarm setting: Adjustable from lower to upper and automatic memory

IBP (Optional)

- Measurement Mode: Pressure Transducer
- Measurement Types: Systolic, Diastolic, Mean
- Channel: 2 channel
- Pressure names: AVP, CVP, PAR, LAP, RAP, ICP
- Measurement Range: -30 ~ 300mmHg
- IBP Accuracy:
 - 0 ~ 100mmHg, ± 4 mmHg
 - 100mmHg ~ 300mmHg, $\pm 2\%$
- Pulse Accuracy: $\pm 1\%$ or ± 1 bpm, whichever is greater
- Calibration Mode: Zero Calibration

TEMP

- Measurement range: 0 ~ 50°C
- Resolution: 0.1°C
- Accuracy: ± 0.1 °C (exclusive of error of sensor)
- Measurement unit: °C / F selectable
- TEMP sensor: standard configuration- skin TEMP sensor
- Alarm setting: Adjustable from lower to upper and automatic memory.

RESP

- Method: R-F(RA-LL) impedance method
- RR measurement range:
 - Adult: 7 ~ 120rpm
 - Pediatric / neonatal: 7 ~ 150rpm
- Resolution: ± 1 rpm
- Accuracy: ± 2 rpm
- Alarm setting: Adjustable from lower to upper and automatic memory
- Choke alarm: 10seconds, 15seconds, 20seconds, 25seconds, 30seconds, 40seconds, no alarm.

EtCO2 (Optional)

- Sidestream CO2
- CO2 Measurement Range:
 - 0 ~ 150 mm Hg, 0 to 79%,
 - 0 to 20kPa (at 760mmHg)
- Accuracy:
 - ± 2 mm Hg (0 ~ 40 mm Hg)
 - $\pm 5\%$ of reading (41 ~ 70 mm Hg)
 - $\pm 8\%$ of reading (71 ~ 100 mm Hg)
 - $\pm 10\%$ of reading (101 ~ 150 mm Hg)
- Sampling Rate: 50ml/min. ± 10 ml/min
- Sampling rate accuracy: 15%
 - Start-up time: <1 min, once the module starts up, it reaches ISO accuracy
 - Mode: 10 minutes after start-up, the module reaches full accuracy mode
- Respiration rate: 0 ~ 120rpm
- Respiration rate accuracy: ± 2 rpm (0-70rpm)
 ± 5 rpm (>70rpm)
- Response time: <240msec (10% to 90%)
- Delay time: <2s
(Sampling line length: 7 inches; internal diameter: 0.055 inches; sampling gas flow rate: 150ml/min)

Mainstream CO2 (Optional)

- Method: Infrared Absorption
- Measuring mode: Mainstream
- Measurement range: 0 ~ 150 mmHg, 0 to 79%, 0 to 20kPa (at 760mmHg)
- Resolution: 0.1 mmHg 0 to 69mmHg
0.25mmHg 70 to 150mmHg
- Accuracy: ± 2 mmHg (0 ~ 40mmHg)
 - $\pm 5\%$ of reading (41 ~ 70mmHg)
 - $\pm 8\%$ of reading (71 ~ 100mmHg)
 - $\pm 10\%$ of reading (101 ~ 150mmHg)
- Alarm range: Same as measurement range

Device Configuration

- YY9107-1999 the appropriate standard requirement of ECG monitor
- Safety grade: grade-I, CF type, BF type
- Recorder: Built-in thermal printing
- Record type: Consecutive real-time record, Automatic record, Parameter alarm record, freeze Waveform record, Review and Saving, Trend Review
- Electric specification: AC 220±22V, DC 12V, 50Hz±1Hz
- Power: 70VA
- Battery working time: 1 hour
- Standard configuration: ECG/HR, SpO2, NIBP, Respiration, Temperature, Pulse

Standard accessories packing list

- Power Plug - 1 pc
- Earth line - 1 pc
- 5 lead ECG cable - 1 pc
- Adult NIBP cuff - 1 pc
- NIBP cable - 1 pc
- Adult spo2 sensor - 1 pc
- Temp sensor - 1 pc (2.25k)
- Electrode - 1 bag
- Warranty card - 1 pc
- Packing list - 1 pc
- Menu - 1 pc

Optional configuration:

AV-9000B

- Nellcor SPO2
- EtCO2
- CF Card
- Built-in Recorder
- IBP
- Special Accessories for Neonatal and Pediatric Patient

AV-9000D

- Nellcor SPO2
- EtCO2
- CF Card
- Built-in Recorder
- BP
- ICG
- Anesthesia Gas
- Special Accessories for Neonatal and Pediatric Patient

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