

BMO210D Multi-parameter Patient Monitor

(12.1 inches)



Features

Core

- Classic ARM9 main board based on embedded Linux
- Support storage of 720 hours trend table and graph review, 2 hours waveform review, 1000 groups NIBP review and 200 alarm events review

Body

- 12.1 inch high resolution LCD TFT
- Support display from 3 up to 12 waveforms
- Support 7 channel ECG waveform display simultaneously

Printer

- Built-in high-speed 50mm thermal printer

Central System

- Wired or wireless connection
- Bed view

Alarm

- Three-level acousto-optic alarm
- Human voice alarm
- Sensor/probe/cuff - off alarm
- Sensor/probe/cuff - defect alarm
- Paper out alarm
- Low battery / no AC supply alarm
- Support alarm review
- Support alarm pause

Linux OS

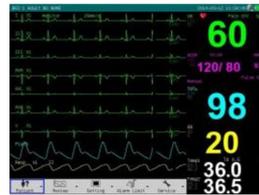
- Support data export for EMR connectivity by USB
- Multi-display mode
- NIBP self-test mode
- Support Data Export by USB
- 13 types of Arrhythmia analysis and real-time S-T segment analysis and pacemaker detection
- Drug calculation and titration table
- Factory preset / user-defined protocols
- Hemodynamic calculation
- Multi-language display



Standard Display



Big Font Display



ECG Full Lead



Trend Table



NIBP Trend



Oxy CRG

BMO210D Multi-parameter Patient Monitor

(12.1 inches)

- Release 2.4

Model Configuration

Standard Configuration:	12.1-inch LCD, 3/5 Lead ECG, NIBP, SpO2, Pulse Rate, Temperature, Respiration
Optional Configuration:	2-Temperature, 1/2 IBP, EtCO2, CSM, GAS, Masimo SpO2, Nellcor SpO2, Bed View
Optional Accessories:	Touch Screen; Printer; Central Monitoring Station; Adult/Neo/Ped different sized accessories; BMV Trolley support on 5 braked wheels, basket & handle; Wall-mounting

CE/ISO/RoHS/CFDA

Performance Specifications

Dimension and Weight

- Dimension: 298mm*272mm*122mm

- Weight: 2.5 kg (excluding accessories)

Power Supply

- Voltage: AC100~240V, 50/60HZ, Power≤60W

Display

- 12.1" color TFT LCD resolution: 800*600 pixels

Battery

- Type: Rechargeable lithium battery 14.8V/2200mAh
- Charge Cycle: >500 times
- Working time: 3.5 hours (option: higher capacities)

Recorder (Option)

- Method: Built-in thermal printer
- Paper width: 50mm (1.97 in)
- Printing speed: 12.5/25/ 50 mm/s
- Trace: Max. 3 tracks
- Recording way: Real-time Recording, Review Printing, Periodic Recording, Alarm Recording

Alarm

- Clinical alarm for every measured /calculated parameter level: Low, medium and high (ex: NIBP, temp, SpO2, ECG, HR, PR, ST, Resp etc.)
- Indication: Auditory and visual
- Technical alarms: low battery, no AC power, no temp/SpO2/NIBP/ECG connected, bad ECG contact, temp/SpO2 defect sensor, NIBP cuff defect (ex: leak)
- Alarm volume adjustable
- Alarm pause time: 2min
- Parameter alarm type: Latch/ Unlatch

Input Device

- Standard: rotary press knob, fast-actions buttons (ON/OFF; audio alarm mute/unmute), freeze; NIBP start/stop button; print; menu)
- Option: touch screen

Presets

- Default factory presets with recommended protocols
- User set protocols of data measurement, view save and print

System Output&Extensible Interface

- Ethernet Network: standard RJ45 socket 1 pc
- USB Port: 1pc
- Optionally: additional data audio/video/communication/storage interfaces

Operating Environment

- Temperature: 5 ~ 40 °C
- Humidity: 15% ~ 90% (non-condensing)
- Atmosphere pressure: 86 KPa ~ 110 KPa

Transportation and Storage

- Temperature: -20~50 °C
- Humidity: 10%~90% (non-condensing)
- Atmosphere pressure: 86 KPa ~ 110 KPa

Safety

- IEC60601-1 Approved, CE marking according to MDD93/42/EEC
- With reference to RoHS Directive 2011/65/EU recasting

Trend & Reviewing

- Built-in memory
- Trend: 720 hours
- ARR events: 128 groups of ARR events and associated waveform
- NIBP measurement reviewing: 1000 groups
- Waveform review: 2 hours
- Alarm event: 200 alarms events review
- Data save and archiving

SpO2 (BMV Technology)

- Measurement Range: 0 ~ 100%
- Resolution: 1%
- Accuracy: ±2% (70% ~ 100%)
- Unspecified (0% ~ 69%)
- Support Pitch tone and multi-level volume
- Photoplethysmography wave
- User-selectable waveform speed: 12.5, 25, 50 mm/s
- PI range (Option): 0.075%-20%

Pulse Rate

- Measuring and Alarm Range: 20-300bpm
- Accuracy: ±2 bpm
- Resolution: 1 bpm

Temperature

- Technique: Thermistor probe (2.25K)
- 1 or 2 wave (if 1 or 2 sensors connected)
- Channel: available dual-channel, provide T1 only if one sensor connected; T2, ΔT in case 2 sensors are connected
- Measuring and Alarm Range: 0.0 °C ~ 50 °C (32°F ~ 122°F)
- Unit: Celsius (°C), Fahrenheit (°F)
- Resolution: 0.1°C or 1°F
- Accuracy: ± 0.1°C

Respiration

- Method: Impedance between RA-LL, RA-LA
- Gain: ×0.25, ×0.50, ×1, ×2, ×4
- Respiration Rate: Adult 0 ~ 120 BrPM
Neonatal / Pediatric 0 ~ 150 BrPM
- Sweep speed: 6.25 mm/s, 12.5 mm/s, 25mm/s
- Resolution: 1 BrPM
- Accuracy: ±2BrPM or ±2% whichever is greater (7-150BrPM)
Unspecified (0%- 6BrPM)
- Apnea Alarm: 10 ~ 40 s

ECG

- Lead mode: 3/5 Leads, I, II, III or I, II, III, AVR, AVL, AVF, V
- Protection: Breakdown Voltage 4000VAC 50/60Hz;
CMMR: >110 dB; Defibrillator proof
- Gain: 2.5mm/mV(×0.25), 5.0mm/mV(×0.5), 10mm/mV (×1), 20mm/mV (×2), 40mm/mV (×4)

- Sweep speed: 12.5mm/s, 25mm/s, 50mm/s
- ECG signal range: ±5 mV p-p
- Accuracy: ±1%
- Resolution: 1 bpm
- Leakage Current < 10 μA
- Baseline Recovery: ≤ 3s after defibrillation
- Bandwidth: Surgery 1 ~ 20Hz
Monitor 0.5 ~ 40 Hz
Diagnostic 0.05 ~ 130 Hz
- Indication of Electrode Separation: Every electrode (exclusive of RL)

Heart Rate

- Measure range: Adult: 15 ~ 300 bpm
Neo/Ped: 15 ~ 350 bpm
- Resolution: 1 bpm
- Accuracy: ± 1%

ST Measurement

- ST wave Trend
- Range: -2.0 ~ +2.0 mV
- ST calculated mean value
- Accuracy: -0.8mV~+0.8mV: ±0.02mV or ±10%, whichever is greater, other range: unspecified

NIBP

- Method: Oscillometric
- Measure mode: Manual, Auto, STAT
- Measure Interval in AUTO Mode: 1, 2, 3, 4, 5, 10, 15, 30, 60, 90, 120, 180, 240, 480 min
- STAT mode cycle time: 5 minutes
- Measure and Alarm Range:
Adult: SYS: 40 ~ 280 mmHg
DIA: 10 ~ 220 mmHg
MEAN: 20 ~ 240 mmHg
Pediatric: SYS: 40 ~ 220 mmHg
DIA: 10 ~ 160 mmHg
MEAN: 20 ~ 170 mmHg
Neonate: SYS: 30 ~ 135 mmHg
DIA: 10 ~ 110 mmHg
MEAN: 20 ~ 110 mmHg

- Static pressure accuracy: ±3mmHg
- Resolution: 1mmHg
- Accuracy: Maximum Mean error ±5mmHg
Maximum Standard deviation ≤8mmHg
- Overpressure: Dual protection (adult: 300 mmHg; pediatric: 240 mmHg; neonate: 150 mmHg)

EtCO2 (Mainstream/ Sidestream) (Option)

- Measure method: Non-dispersive infrared (NDIR)
- Measure Range: 0 ~ 19.7% (0 ~ 150 mmHg)
0 ~ 20 kPa
- Resolution: 0.1 mmHg
- CO2 Accuracy: 0 ~ 40 mmHg, ±2 mmHg
41 ~ 70 mmHg, ±5% of reading
71 ~ 100 mmHg, ±8% of reading
101 ~ 150 mmHg, ±10% of reading
at 760 mmHg, ambient temperature of 25°C)
- Respiratory Rate: Range: 3 ~ 150 BrPM
Accuracy: ±1 bpm

EtCO2 (Micro-stream) (Option)

- Measure method: Non-dispersive infrared (NDIR)
- Measure Range: 0 ~ 19.7% (0 ~ 150 mmHg)
0 ~ 20 kPa
- Sample Rate: 50 mL/min ±10mL/min
- Resolution: 0.1 mmHg (0 ~ 50 mmHg)
0.25 mmHg (50 ~ 114 mmHg)
- CO2 Accuracy: 0 ~ 40 mmHg, ±2 mmHg
41 ~ 70 mmHg, ±5% of reading
71 ~ 100 mmHg, ±8% of reading
101 ~ 150 mmHg, ±10% of reading
at 760 mmHg, ambient temperature of 35°C)
- Respiratory Rate: Range: 3 ~ 120 BrPM
Accuracy: ±1 bpm

IBP (Option)

- Max Channel: 2
- Measurement way: Thermal resistance way
- Press Sensor: Sensitivity 5 uV/V/mmHg, ±2%
Impedance 300 to 3000Ω
- Resolution: 1 mmHg
- Unit: mmHg, kPa, cmH2O
- Transducer sites:
Arterial Pressure (ART)
Pulmonary Arterial (PA)
Left Arterial (LAP)
Right Arterial (RAP)
Central Venous Pressure (CVP)
Intracranial Pressure (ICP)
P1/ P2
- Measuring and alarm range:
ART 0 ~ +350mmHg
PA -10 ~ +120 mmHg
CVP/ RAP/ LAP/ ICP -10 ~ +40 mmHg
P1/ P2 -50 ~ +350mmHg

- Accuracy:
Static: ±1mmHg or ±2%, whichever is greater (exclusive of transducer)
±4mmHg or ±4%, whichever is greater (inclusive of transducer)
Dynamic: ±4mmHg or ±4%, whichever is greater
** Specifications subject to change without prior notice