Multiplelabs
Turnkey Laboratories Solutions

Analytical®
Technologies Limited

MP - 3217

Multi Paramoniter

EPCC / PRODUCTS / APPLICATION / SOFTWARE / ACCESSORIES / CONSUMABLES / SERVICES

Analytical Technologies Limited

An ISO 9001 Certified Company

www.analyticalgroup.net

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

• 1 5 inches high resolution LCD

• Support display max. I I 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-off alarm

• Paper out 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

• Hemodynamic calculation

• Multi-language display

Model Configuration

Standard Configuration:	15-inch LED, 3/5 Lead ECG, NIBP, SpO2, Puls Rate, Temperature, Respiration
Optional Configuration:	2-Temperature. 1/2 IBP, EtCO2, Masimo SpO2, Nellcor SpO2, Bed View, HDMI USB, RJ45, 12-lead ECG
Optional Accessories:	Touch Screen, Printer, Central Monitoring Station, Neo/Ped Accessories, Wall-mounting, Trolley

Performance Specifications

Dimension and Weight

- Dimension: 353mm*325mm*143mm
- Weight: 2.5 kg (excluding accessories)

Power Supply

- Voltage: AC 100 ~ 240V, 50/60HZ. Power≤60W

Display

- 15 color TFT LED resolution: 1024*768 pixels

Battery

- Type: Rechargeable lithium battery 14.8V/2200mAh
- Charge Cycle: ≥500 times
- Working time: 3.5 hours

Recorder (Option)

- Method: Thermal printer
- Paper width: 50 mm (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

- Level: Low, medium and high
- Indication: Auditory and visual
- Alarm volume adjustable
- Alarm pause time: 2min
- Parameter alarm type: Latch/ Unlatch

Input Device

- Standard: Knob /Keypress
- Option: Touch screen

System Output & Extensible Interface

- Ethernet Network: standard RJ45 socket * 1 pc
- USB Port: 1 pc

Operating Environment

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

Transportation and Storage

- Temperature: -20 ~ 50 ºC
- 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

- 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

SpO2

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

Pulse Rate

- Measuring and Alarm Range: 20 ~ 250bpm
- Accuracy: ±3 bpm
- Resolution: 1 bpm

Respiration

- Method: Impedance between RA-LL, RA-LA
- Gain: x0.25, x0.50, x 1, x2, x4
- 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 whichever is greater (7 ~ 150BrPM)
  Unspecified (0% ~ 6BrPM)
- Apnea Alarm: 10 ~ 40 s

Temperature

- Technique: Thermistor probe (2.25K)
- Channel: Dual-channel, provide T1; T2;△T
- 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:

no sensor ± 0.1 °C (25 °C - 45°C), ± 0.2 °C(other)

include sensor ± 0.2 °C (32°C - 42°C) ± 0.3 °C (other)

ECG

- Lead mode: 3/5 Leads, I, II. III or I, II. III, AVR, AVL, AVF, V
- Protection: Breakdown Voltage 4000VAC 50/60Hz; Defibrillator proof
- Gain: 2.5mm/mV(x0.25). 5.0mm/mV(x0.5). 10mm/mV (x 1), 20mm/mV (x2)
- Sweep speed: 12.5mm/s. 25mm/s, 50mm/s
- ECG sign al 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

Range: -2.0 +2.0 mV

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

  1,2,3,10, 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: 1 mmHg
- Accuracy: Maximum Mean error ±5mmHg

  Maximum Standard deviation ≤8mmHg
- Over pressure Protection: Dual protection

EtC02 (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 ºC
- Respiratory Rate: Range: 3 ~ 150 BrPM
  Accuracy ± 1 bpm

EtC02 (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 ~ 1 14 mmHg)
- CO2 Accuracy: 0 ~ 40 mmHg, ±2mmHg
  41 ~ 70 mmHg, ±5% of reading
  71 ~ 100 mmHg, ±8% of reading
  101 ~ 150 mmHg, ±10% of reading
  at 760 mmHg, ambient temprature of 35 ºC
- Respiratory Rate: Range: 3 ~ 120 BrPM
  Accuracy: ± 1bpm

IBP (Option)

- Max Channel: 2
- Measurement way: Thermal resistance way
- Press Sensor: Sensitivity 5 uV/V/mmHg, ±2%
  Impedance 300 to 300012
- Resolution: I mmHg
- Unit: mmKg, kPa, cmH20
- Transducer sites:
  - Arterial Pressure (ART)
  - Pulmonary Arterial (PA)
  - Left Arterial (LAP)
  - Right Arterial (RAP)
  - Central Venous Pressure (CVP)
  - Intracranial Pressure (ICP)
  - PI/P2
- Measuring and alarm range:

ART	0 ~ + 350mmHg
PA	-10 ~ +120 mmHg
CVP/RAP/LAP/ICP	-10 ~ +40 mmHg
PI/P2	-50 ~ +350 mmHg

- Accuracy:
  Static: ±1 mmHg or ±2% whichever is greater (exclusive of transducer)
  ±4 4 mmHg or ±4% whichever is greater (Inclusive of transducer)
  Dynamic: ±4mmHg or ±4% whichever is greater

*Specifications Subject to Change Without Prior Notice