

PM-9000Express

Patient Monitor

Technical Specifications

Safety	
IEC60601-1 approved, CE marking according to MDD93/42/EEC	
Dimension and Weight	
Dimension:	318mm (W) x 270mm (H) x 137mm (D)
Weight:	Standard Configuration: 4.7kg Maximum weight: 7.5kg
Operation Environment	
Power Requirements:	AC100-240V(AC), 50/60 Hz,
Power:	140VA
Temperature:	0-40°C
Humidity:	15-95% non-condensing
Patient Range	
Neonate, pediatric, and adult patients	
Performance Specifications	
Display:	12.1" color TFT (diagonal) Rolling and refreshing waveform display Resolution: 800x600 Multi displays selectable, including: Standard display Large font display Trend coexist display Bed-to-bed view display OxyCRG dynamic view display 8 waveforms
Trace:	Sweep Speed: 6.25mm/s, 12.5mm/s, 25mm/s, 50mm/s Alarm indicator light Power indicator light Battery indicator light QRS beep and alarm sound
Indicator:	Parameter cable interface AC Power input socket Network interface External VGA interface for connection of an alternate Display Aux Output interface (Analog/Defib-Synch/Nurse Call)
Interface:	Rechargeable Li-ion Battery: (for 2 pieces) Maximum 6.5 hours for charging; 5 hours for continuous working Rechargeable Lead-Acid Battery: (for 2 pieces) Maximum 12 hours for charging; 2 hours for continuous working 1-96 hours User-adjustable High and Low limits 3-level audible and visual alarm Connected to central monitoring system Built-in, thermal array Waveform: 3 channels Record mode: manual, on alarm, time-defined Paper width: 50mm Print speed: 25mm/s, 50mm/s
Battery:	
Trend time:	
Alarm:	
Networking:	
Recorder:	
ECG	
Lead type:	5-lead and 3-lead selectable, 12-lead (including 3/5-lead) optional
Input:	10 leadwire cable: RA; LA; RL; LL; V1-V6 or R; L; N; F; C1-C6 5 leadwire cable: RA; LA; RL; LL; V or R; L; N; F; C 3 leadwire cable: RA; LA; LL or R; L; F 12-lead: I; II; III; aVR; aVL; aVF; V1-V6 5-lead: I; II; III; aVR; aVL; aVF; V 3-lead: I; II; III 2 channels x0.125; x0.25; x0.5; x1; x2; auto 12.5mm/s, 25mm/s, 50mm/s Adult: 15-300bpm; neonate/Pediatric: 15-350bpm Accuracy: ±1bpm or ±1%, whichever is greater Resolution: ±1bpm Filter: Diagnostic mode: 0.05-100Hz or 0.05-150Hz (optional 12-lead) Monitoring mode: 0.5-40 Hz Surgical mode: 1-20Hz Withstand 4000VAC/50Hz voltage in isolation Against electro-surgical interference and defibrillation 1mV ± 5% 15-350 bpm Measurement range: -2.0 mV-2.0mV Alarm range: -2.0mV-2.0 mV
ECG waveform:	
Gain selection:	
Sweep speed:	
Heart Rate range:	
Accuracy:	
Resolution:	
Filter:	
Protection:	
Scaling signal:	
Alarm range:	
S-T segment detection:	
Arrhythmia analysis:	
Alarm:	
12 lead ECG analysis:	
Pace detection:	
ECG Configuration:	Mindray ECG(812A) - 3/5 Lead; Mindray ECG(M08A) - 3/5/12Lead; Mortara ECG(M08A) - 3/5/12Lead; (Options Mortara S-T segment detection & Mortara Arrhythmia analysis)
Respiration	
Method:	Thoracic impedance
Operation modes:	Auto/Manual
Measurement range:	Adult: 0-120 BrPM; Neonate/Pediatric: 0-150 BrPM
Apnea alarm:	YES
Alarm:	YES, audible and visual alarm, alarm events recallable
NIBP	
Method:	Automatic oscillometric
Operation modes:	Manual/Automatic/Continuous
Auto measure time:	Adjustable

Measurement unit:	mmHg/kPa selectable
Measurement types:	Systolic, Diastolic, Mean
Range of systolic pressure:	Adult Mode: 40 - 270 mmHg Pediatric Mode: 40 - 200 mmHg Neonatal Mode: 40 - 135 mmHg
Range of diastolic pressure:	Adult Mode: 10 - 210 mmHg Pediatric Mode: 10 - 150 mmHg Neonatal Mode: 10 - 100 mmHg
Range of mean pressure:	Adult Mode: 20 - 230 mmHg Pediatric Mode: 20 - 165 mmHg Neonatal Mode: 20 - 110 mmHg
Accuracy of blood pressure measurement:	The mean error shall be less than ± 5 mmHg The standard deviation shall be less than 8 mmHg double safety protection 1 mmHg Systolic, Diastolic, Mean Measurement 40 - 240 bpm Resolution 1 bpm Accuracy ± 3bpm or ± 3% whichever is greater
Over-pressure protection:	
Resolution:	
Alarm:	
PR from NIBP:	
SpO2	
MINDRAY SpO2	
Measurement range:	0-100%
Resolution:	1%
Accuracy:	± 2% (70-100%, Adult/Pediatric, non-motion); ± 3% (70-100%, Neonate, non-motion); ± 3% (70-100%, Adult/Pediatric/Neonate, motion); 0-69% unspecified
Alarm range:	1-100%
Pulse rate:	Range: 20-254bpm Resolution: 1bpm Accuracy: ± 3bpm (non-motion) ± 5bpm (motion) Alarm range: 20-254bpm
NELCOR SpO2	
Measurement range:	0-100%
Resolution:	1%
Accuracy:	± 2% (70-100%, MAX-A, MAX-AL, MAX-N, MAX-P, MAX-I and MAX-FAST sensors); ± 2.5% (70-100%, OxiCliq A, OxiCliq N, OxiCliq P and OxiCliq I sensors); ± 3% (70-100%, D-YS, DS-100A, OXI-A/N and OXI-P/I sensors); 3.5% (70-100%, MAX-R, D-YSE and D-YSPD sensors); 0-69% unspecified
Alarm range:	0-100%
Pulse rate:	Range: 20-300bpm Resolution: 1bpm Accuracy: ± 3bpm (20-250bpm); 251-300bpm unspecified Alarm range: 20-300bpm
Unspecified:	
Temperature	
Measurement range:	0-50°C (32-122°F)
Resolution:	0.1°C
Accuracy:	± 0.1°C (excluding the sensor)
Channel:	Dual-channel, Provide T1; T2; A T
IBP	
Measurement range:	-50-300mmHg
Channel:	2 channels
Pressure transducer:	Sensitivity: 5µ V/V/mmHg Impedance range: 300-3000 Ω ART, PA, CVP, RAP, LAP, ICP, P1, P2 1mmHg Accuracy: ± 2% or ± 1 mmHg, whichever is greater -10-300mmHg Range & Accuracy: 25 - 200 bpm ± 1 BPM or ± 1% whichever is greater 201 - 350 bpm ± 2% Resolution: 1 bpm
Pressure names:	
Resolution:	
Accuracy:	
Alarm range:	
PR from IBP:	
Cardiac Output	
Method:	Thermolodion
Measurement range:	CO: 0.1-20 L/min. TB: 23-43°C TI: 0-27°C CO: 0.1 l/min. TI: 0.1°C TB: 0.1°C CO: ± 5% or 0.1l/min TI: ± 0.1°C TB: ± 0.1°C
Resolution:	
Accuracy:	
Parameter output:	Cardiac output Hemodynamics calculation
EICO2	
Microstream CO2	
CO2 range:	0-99mmHg
Accuracy:	0-38 mmHg ± 2 mmHg 39-99 mmHg ± 5% +0.08% (reading - 38 mmHg) (above 38 mmHg) Waveform: 0.1mmHg Value: 1mmHg
Resolution:	
Sampling rate:	50 ⁺¹⁵ / _{-7.5} ml/min
Initialization time:	30 seconds (typical), reaches ± 5% steady-state accuracy within 3minutes.
Response time:	Typical value: 2.9s, including the rising time and the delay time

Rising time:	(adopting the FilterLine of standard length) <190ms (rising from 10% to 90%)
Delay time:	2.7s (typical value)
Respiration rate:	0-150 breaths/min
Respiration rate accuracy:	0-70BrPM ± 1BrPM 71-120BrPM ± 2BrPM 121-150BrPM ± 3BrPM Adult, neonate
Mode:	
Sidestream CO2	
Measurement range:	0-99mmHg
Accuracy:	± 2mmHg (0-40 mmHg) ± 5% of reading (41-76 mmHg) ± 10% of reading (77-99 mmHg) 1 mmHg 70 ml/min, 100ml/min 0.15 or 15ml/min 30 Sec. The module enters the warming up status after the startup. 1 minute later, it enters the ready-to-measure status. 0-120 rpm ± 2BrPM (0-70BrPM) ± 5BrPM (>70BrPM) When measured with a neonatal watertrap and a 2.5 m-long neonatal sampling line: < 3.5 s @ 100 ml/min < 4 s @ 70 ml/min When measured with an adult watertrap and a 2.5 m-long adult sampling line: < 5.5 s @ 100 ml/min < 7 s @ 70 ml/min When measured with a neonatal watertrap and a 2.5m-long neonatal sampling line: < 3.5 s @ 100 ml/min < 3.5 s @ 70 ml/min When measured with an adult watertrap and a 2.5m-long adult sampling line: < 5 s @ 100 ml/min < 6.5 s @ 70 ml/min
Resolution:	
Sampling rate:	
Start-up time:	
Respiration rate:	
Respiration rate accuracy:	
Response time:	
Delay time:	
Mainstream CO2	
Method:	Infrared Absorption
Measuring Mode:	Mainstream
Measurement range:	EtCO2: 0-99mmHg InsCO2: 0-99mmHg AwRR: 0-150BrPM EtCO2: 1mmHg InsCO2: 1mmHg AwRR: 1BrPM CO2 concentration: ± 2mmHg (0-40mmHg) ± 5% of reading (41-76mmHg) ± 10% of reading (77-99mmHg)
Resolution:	
Accuracy:	
Alarm range:	AwRR: ± 2BrPM Same as Measurement range
Multi-Gas/O2	
Method:	Infrared Absorption
Gas sorts:	CO2, N2O, Des, Iso, Enf, Sev, Hal, O2 (Optional paramagnetic sensor)
Measurement range:	CO2: 0-30% N2O: 0-105% O2: 0-105% Enf, Iso, Hal: 0-30% Sev: 0-30% Des: 0-30% Fiand ET values ± 1BrPM (2-60 BrPM) 61-100 BrPM (unspecified) Up to 4 waveforms displayed Agent mixture detection MAC value displayed
Data output:	
Respiration rate:	
Other:	
Configuration	
Standard Configuration: ECG(Mindray 3/5 Lead); NIBP; RESP; Mindray-SpO2; Dual-Temp; Lead Acid Battery	
Options: ECG(Mindray 12 Lead); ECG(Mortara 3/5 lead with Extended ARR); ECG(Mortara 12 lead with Extended ARR); ECG(Mortara 3/5 lead with Extended ARR & 3/5 Lead ST); ECG(Mortara 12lead with Extended ARR & 12 lead ST); ECG(Mortara 12lead with Extended ARR & 12 lead ST & 12 Lead ECG RESETTING ANALYSE); Clinic proven SpO2; Dual-IBP; CO; EtCO2; Multi-gas/O2; Thermal Recorder; Li-ion Battery, CF Card for power off storage, WLAN card.	



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Patient Monitor

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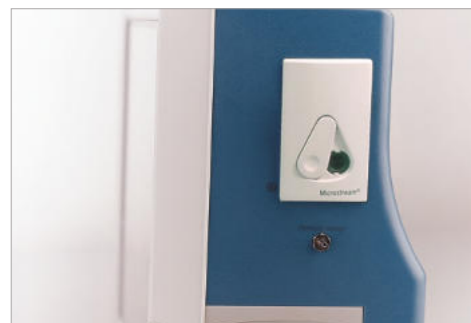
DISTRIBUTOR:





Multi-Gas/O₂ Module

Short response time
Automatically identify the anesthesia agents



Microstream EtCO₂ Module

Suitable for non-intubated and intubated
Flexible for adult, pediatric, infant/neonate
Low sampling rate 50ml/min (-7.5ml/min, +15ml/min)



CF Memory Card

Power off storage use for 96-hour graphic and trend, 800 NIBP records and 70 alarm records



Left Side Panel

The connectors for the cables and sensors of 2IBP, ECG, NIBP, 2TEMP, CO and SpO₂

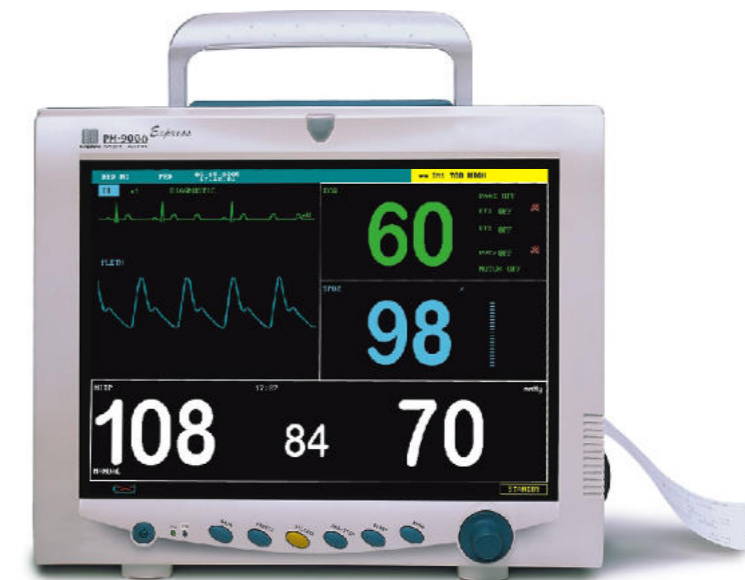


Rolling Stand



Wall Mount

- 12.1" color TFT display with maximum 8 waveforms
- Maximum 96-hour graphic and tabular trends of all parameters
- Large font display
- SpO₂ pulse-tone modulation (Pitch Tone)
- 12-lead ECG analysis
- Mindray or Mortara Arrhythmia and ST segment analysis
- Multi-Gas/O₂
- Microstream™ EtCO₂ / Sidestream EtCO₂ / Mainstream EtCO₂
- Clinical proven SpO₂ technology
- Fixed compact flash memory card , wireless LAN card
- Li-ion battery / Lead acid battery



Large Font Display Mode

Basic parameters (ECG, SpO₂, NIBP) in large font for distance view



EtCO₂ Waveform

Adopting infrared absorption technique to measure the concentration of EtCO₂, InsCO₂, AWRR



Multi-gas/O₂ Waveforms

Adopting infrared absorption technique to measure the concentration of EtCO₂, N₂O, O₂ and other five anesthesia gases (Des, Iso, Enf, Sev, Hal)



12-lead ECG Display Mode

Conventional 12-lead ECG technique to analyze I, II, III, aVR, aVL, aVF, V1~V6 and display these waveforms on the same screen.