

# PM-9000Express

## Patient Monitor

### Technical specifications

<b>Safety</b>	
IEC60601-1 approved, CE marking according to MDD93/42/EEC	
<b>Dimension and Weight</b>	
Dimension:	318(W) x 270(H) x 137(D)mm 12.5(W) x 10.6(H) x 5.4(D)inch Standard Configuration: 4.7kg / 10.4lb. Maximum weight: 7.5kg / 16.5lb.
Weight:	
<b>Operation Environment</b>	
Power Requirements:	AC 100-240V, 50/60 Hz, 140VA
Temperature:	0-40°C/32-104°F
Humidity:	15-95% non-condensing
Patient Range:	Neonate, pediatric, and adult patients
<b>Performance Specifications</b>	
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 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 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)
Trace:	
Indicator:	
Interface:	
Battery:	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
Trend time:	
Alarm:	
Networking:	Connected to central monitoring system
Recorder:	Built-in, thermal array Waveform: 3 channels Record mode: manual, on alarm, time-defined Paper width: 50mm Print speed: 25mm/s, 50mm/s
<b>ECG</b>	
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
Lead selection:	x0, 1.25x0.25; 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
ECG waveform:	
Gain selection:	
Sweep speed:	
Heart Rate range:	
Accuracy:	
Resolution:	
Filter:	
Protection:	Withstand 4000VAC/50Hz voltage in isolation Against electro-surgical interference and defibrillation
Scaling signal:	1mV ± 5%
Alarm range:	15-350 bpm
S-T segment detection:	Measurement range: -2.0 mV ~ ±2.0 mV Alarm range: -2.0 mV ~ ±2.0 mV YES
Arrhythmia analysis:	YES, audible and visual alarm, alarm events recallable
Alarm:	YES
12 lead ECG analysis:	YES
Pace detection:	YES
ECG Configuration:	Mortara ECG(M08A) - 3/5/12 Lead; (Options Mortara S-T segment detection & Mortara Arrhythmia analysis)
<b>Respiration</b>	
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
<b>NIBP</b>	
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

Range of diastolic pressure:	Neonatal Mode: 40-135 mmHg Adult Mode: 10-210 mmHg Pediatric Mode: 10-150 mmHg
Range of mean pressure:	Neonatal Mode: 10-100 mmHg 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
Over-pressure protection:	1mmHg
Resolution:	Systolic, Diastolic, Mean
Alarm:	Measurement 40-240 bpm Resolution 1 bpm
PR from NIBP:	Accuracy ±3bpm or ±3% whichever is greater
<b>SpO2</b>	
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
<b>MASIMO SPO2</b>	
Measurement range:	1-100%
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:	0-100%
Pulse rate:	Range: 25-240bpm Resolution: 1bpm Accuracy: ±3bpm (non-motion); ±5bpm (motion) Alarm range: 25-240bpm
<b>NELLCOR SpO2</b>	
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%, OxiClq A, OxiClq N, OxiClq P and OxiClq 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:	
<b>Temperature</b>	
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; Δ T
<b>IBP</b>	
Measurement range:	-50-300mmHg
Channel:	2 channels
Pressure transducer:	Sensitivity: 5 μV/mmHg Impedance range: 300-3000 Ω ART, PA, CVP, RAP, LAP, ICP, P1, P2
Pressure names:	1mmHg
Resolution:	±2% or ±1 mmHg, whichever is greater
Accuracy:	-10-300mmHg
Alarm range:	Range & Accuracy: 25-200 bpm ±1 BPM or ±1% whichever is greater 201-350 bpm ±2%
PR from IBP:	Resolution: 1 bpm
<b>Cardiac Output</b>	
Method:	Thermofluidation
Measurement range:	CO: 0.1-20 L/min. TB: 23-43°C TI: 0-27°C
Resolution:	CO: 0.1 l/min. TI: 0.1°C
Accuracy:	CO: ±5% or 0.1 l/min TB: ±0.1°C TI: ±0.1°C
Parameter output:	Hemodynamics calculation

<b>EtCO2</b>	
Microstream CO2:	
Measurement range:	0-99mmHg
Accuracy:	0-38 mmHg ± 2 mmHg 39-99 mmHg ± 5% of reading + 0.08% for every 1 mmHg (above 38 mmHg) Waveform: 0.1mmHg Value: 1 mmHg 50ml/min - 7.5+15ml/min 30 seconds (typical), reaches ±5% steady-state accuracy within 3 minutes.
Resolution:	Typical value: 2.9s, including the rising time and the delay time (adopting the FilterLine of standard length) <190ms (rising from 10% to 90%) 2.7s (typical value)
Sampling rate:	0-150 breaths/min
Initialization time:	0-70BrPM ±1BrPM 71-120BrPM ±2BrPM 121-150BrPM ±3BrPM Adult, neonate
Response time:	
Rising time:	
Delay time:	
Respiration rate:	
Respiration rate accuracy:	
<b>Mode:</b>	
<b>Sidestream CO2</b>	
Measurement range:	0-99mmHg ±2mmHg (0-40 mmHg) ±5% of reading (41-76 mmHg) ±10% of reading (77-99 mmHg)
Accuracy:	70 ml/min; 100ml/min 0.15 or 15ml/min
Sampling rate:	30 Sec. The module enters the warming up status after the startup. 1 minutes later, it enters the ready-to-measure status. 10 minutes after start-up, the module reaches full accuracy mode
Sampling rate accuracy:	
Start-up time:	
Mode:	
Respiration rate:	0-120 rpm ±2BrPM (0-70BrPM) ±5BrPM (>70BrPM)
Respiration rate accuracy:	
Response time:	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 2.5 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 <6.5 s @ 70 ml/min
Delay time:	
<b>Multi-Gas/O2</b>	
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% Fi and 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:	
<b>Standard Configuration:</b>	
ECG(Mindray 3/5 Lead); NIBP; RESP; Mindray-SpO2; Dual-Temp; Lead Acid Battery	
<b>Options:</b>	
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 12 lead with Extended ARR & 12 lead ST); Clinical proven SpO2; Dual-IBP; CO; EtCO2; Multi-gas/O2; Thermal Recorder; Li-ion Battery, CF Card(power off storage)	

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## Patient Monitor



★ 3-Year Manufacturer Warranty on Main Unit!

Distributed by:  
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*Taking high cost out of quality healthcare*



**Parameters: ECG, RESP, NIBP, SpO<sub>2</sub>, 2-TEMP, 2-IBP, EtCO<sub>2</sub>, Multi-Gas/O<sub>2</sub>**



**Multi-Gas/O<sub>2</sub> Module**

Measures concentration of anesthesia gases (Des, Sev, Iso, Enf, Hal), N<sub>2</sub>O, CO<sub>2</sub> and O<sub>2</sub>  
Automatically identifies the anesthetic agents  
Short response time



**Microstream™ EtCO<sub>2</sub>**

Suitable for non-intubated and intubated applications  
For adult, pediatric, infant/neonate patients  
Low sampling rate 50ml/min (± 7.5ml/min)



**Fixed Memory Card**

Provides power off storage for 96-hour graphic and trend, 800 NIBP records and 70 alarm records



**Left Side Panel**

Connectors for ECG, NIBP, SpO<sub>2</sub>, TEMP, IBP and Mainstream CO<sub>2</sub> cables and sensors



Rolling Stand

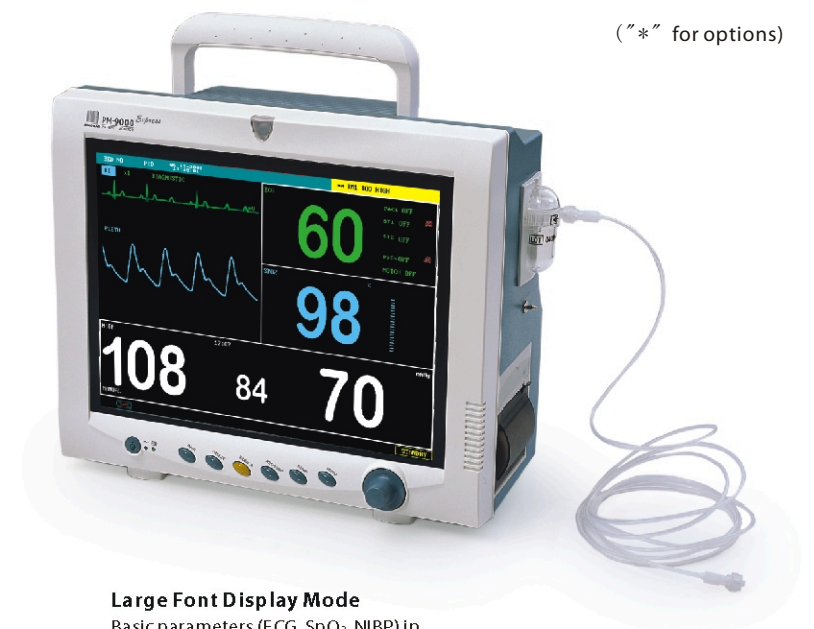


Wall Mount

**PM-9000Express**  
Patient Monitor

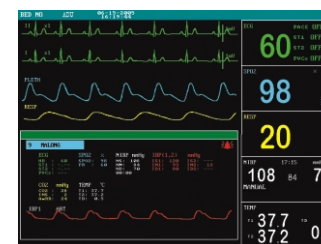
- 12.1" color TFT display with maximum 8 waveforms
- Anesthetic agent monitor\*
- Clinical proven SpO<sub>2</sub> technology
- Microstream™ EtCO<sub>2</sub> / Sidestream EtCO<sub>2</sub> \*
- Maximum 96-hour graphic and tabular trends of all parameters
- Mortara Arrhythmia and ST segment analysis\*
- Large font display
- SpO<sub>2</sub> pulse-tone modulation (Pitch Tone)
- 40-second full-disclosure waveform review
- Alarm light indicator
- Compact flash memory card option\*
- Li-ion battery
- Suitable for adult, pediatric and neonatal patients

(\* for options)



**Large Font Display Mode**

Basic parameters (ECG, SpO<sub>2</sub>, NIBP) in large font for distance view



**"Viewbed Screen" Mode**

View patient data from another monitor with a simple LAN connection



**Multi-gas/O<sub>2</sub> Option**

Adopting infrared absorption technique to measure the concentration of EtCO<sub>2</sub>, N<sub>2</sub>O, O<sub>2</sub> and other five anesthesia gases (Des, Sev, Iso, Enf, Hal)



**"Trend Screen" Mode**

Dynamic 2-hour trend data viewed next to real-time waveform data