

# patient MONITOR

## PM-1000M+



- Powerful and flexible for Critical Care, Anesthesia, Neonatal care and others applications.
- Suitable for Adult, Pediatric and Neonatal application.
- Comprehensive modular design with hot plug and play infrared technology. Display and CPU integrated for ease of mounting.
- Standard integrated 5 slots, support up to 13 slots with external satellite module rack (Optional).
- All-In-One MPM module can provide stand-of-care parameters; ECG/RESP, SpO2, 2-TEMP, NIBP, (2-IBP optional), monitoring and up to 24-hour data storage.
- Large 17" (1280x1024 optional) or 12.1" (800x600) color TFT display. Supports up to 40 waveforms with up to 3 displays (1 non-independent; 2 Independent)
- Touch screen (Optional).

## TECHNICAL SPECIFICATIONS

<b>SAFETY</b>	Meet the requirements of IEC60601 series standards	<b>ACCURACY</b>	±1bpm or ±1%, whichever is greater
<b>DIMENSION AND WEIGHT</b>		<b>RESOLUTION</b>	1bpm
<b>MAIN UNIT</b>	Dimension: 336mm (W) x297 mm (H) x187 mm (D) Weight: 6.6kg	<b>FILTER</b>	Diagnostic mode: 0.05-150Hz Monitoring mode: 0.5-40 Hz Surgical mode: 1-20Hz
<b>MPM</b>	Dimension: 80.5mm (W) x136.5 mm (H) x102 mm (D) Weight: 0.63kg(without accessories)	<b>PROTECTION</b>	Withstand 4000VAC/50Hz voltage in isolation Against electrosurgical interference and defibrillation
<b>SMR</b>	Dimension: 402mm (W) x142 mm (H) x151 mm (D) Weight: 1.8kg	<b>SCALING SIGNAL</b>	1mV ±5%
<b>OPERATION ENVIRONMENT</b>		<b>ALARM RANGE</b>	15-350bpm
<b>POWER REQUIREMENTS</b>	AC100-240V ( 10%), 50/60 Hz (±3Hz), 2.5-1.4A	<b>S-T SEGMENT DETECTION</b>	Measurement range: -2.0mV~2.0mV Alarm range: -2.0mV~2.0mV
<b>TEMPERATURE</b>	0-40°C	<b>ARRHYTHMIA ANALYSIS</b>	YES
<b>HUMIDITY</b>	15-95% non-condensing	<b>ALARM</b>	YES, audible and visual alarm - alarm events recallable
<b>PATIENT RANGE</b>	Adult, pediatric, and neonatal patients	<b>12 LEAD ECG ANALYSIS</b>	YES
<b>PERFORMANCE SPECIFICATIONS</b>		<b>PACE DETECTION</b>	YES
<b>DISPLAY</b>	12.1" color TFT Resolution: 800x600 pixels Slave display: 1 (non-independent) Independent display: 2 Large 17" inch Resolution 1280x1024 (optional)	<b>RESPIRATION</b>	
<b>TRACE</b>	Waveform channels per display: up to 8 Sweep speed: 6.25mm/s, 12.5mm/s, 25mm/s, and 50mm/s	<b>METHOD</b>	Thoracic impedance
<b>INDICATOR</b>	Dual alarm indicator lights Power on indicator light AC power indicator light Battery indicator light QRS beep and alarm sound Operating key sound	<b>OPERATION MODES</b>	Auto/ Manual
<b>INTERFACE</b>	AC Power input socket One SMR connector One RJ45 connector One External display interface (DVI) One Aux Output interface (Analog out/Nurse call) One Defib Sync interface Four USB Devices interface (mouse, keyboard, Bluetooth presenter, etc) One CIS interface(Currently only available in China) One CF interface One WLAN interface	<b>MEASUREMENT RANGE</b>	Adult: 0~120 rpm Neonate/Pediatric: 0~150 rpm
<b>BATTERY</b>	Rechargeable Li-ion battery 2 hours working time Backup Battery (Optional)	<b>ACCURACY</b>	7-150 rpm: ±2 rpm or ±2% (whichever is greater) 0-6 rpm: unspecified
<b>TREND TIME</b>	120 hours trending Up to 24 hrs full disclosure	<b>APNEA ALARM</b>	YES
<b>ALARM</b>	User-adjustable High and Low limits Prioritized audible and visual alarm	<b>ALARM</b>	YES, audible and visual alarm alarm events recallable
<b>NETWORKING</b>	Connected to central monitoring system by hardwire/wireless (Optional) Bedside device connection Connected to Clinical Information System (Currently only available in China)	<b>NIBP</b>	
<b>RECORDER</b>	Built-in, thermal array Waveform: 3 channels	<b>METHOD</b>	Automatic oscillometric
<b>PRINTER</b>	External printer supported (Optional)	<b>OPERATION MODES</b>	Manual/Automatic/Continuous
<b>ECG</b>	5-lead and 3-lead selectable, 12-lead optional	<b>AUTO MEASURE TIME</b>	Adjustable
<b>INPUT</b>	10-leadwire cable: RA; LA; RL; LL; V1-V6 5-leadwire cable: RA; LA; RL; LL; V 3-leadwire cable: RA; LA; LL	<b>MEASUREMENT UNIT</b>	mmHg/kPa selectable
<b>LEAD SELECTION</b>	12-lead: I; II; III; aVR; aVL; aVF; V1-V6 5-lead: I; II; III; aVR; aVL; aVF; V(n) 3-lead: I; II; III	<b>MEASUREMENT TYPES</b>	Systolic, Diastolic, Mean
<b>ECG WAVEFORM</b>	Up to 8 channels, 12-lead display	<b>MEASUREMENT RANGE</b>	
<b>GAIN SELECTION</b>	x0.125; x0.25; x0.5; x1; x2; auto	<b>RANGE OF SYSTOLIC PRESSURE</b>	AdultMode 40 - 270 mmHg Pediatric Mode 40 - 200 mmHg Neonatal Mode 40 - 135 mmHg
<b>SWEEP SPEED</b>	12.5mm/s, 25mm/s, 50mm/s	<b>RANGE OF DIASTOLIC PRESSURE</b>	Adult Mode 10 - 210 mmHg Pediatric Mode 10 - 150 mmHg Neonatal Mode 10 - 100 mmHg
<b>HEART RATE RANGE</b>	Adult: 15-300bpm; Neonate/ Pediatric: 15-350bpm	<b>RANGE OF MEAN PRESSURE</b>	Adult Mode 20 - 230mmHg Pediatric Mode 20 - 165mmHg Neonatal Mode 20 - 110mmHg
		<b>ACCURACY OF BLOOD PRESSURE MEASUREMENT</b>	The mean error shall be less than 5 mmHg The standard deviation shall be less than 8 mmHg
		<b>OVER-PRESSURE PROTECTION</b>	double safety protection
		<b>RESOLUTION</b>	1mmHg
		<b>ALARM</b>	Systolic, Diastolic, Mean
		<b>SpO<sub>2</sub></b>	
		<b>MEASUREMENT RANGE</b>	0~100%
		<b>RESOLUTION</b>	1%
		<b>ACCURACY</b>	±2% (70-100% Adult/PediatricNon-motion) ±3% (70-100% Neonate non-motion) 3% (70-100% Adult/Pediatric/Neonate motion) 0-69% unspecified
		<b>ALARM RANGE</b>	0~100%
		<b>PULSE RATE</b>	Range: 20~254bpm Resolution: 1bpm Accuracy: ±3bpm non-motion 5bpm motion Alarm range:20~254bpm
		<b>TEMPERATURE</b>	
		<b>MEASUREMENT RANGE</b>	0~50°C
		<b>RESOLUTION</b>	0.1°C
		<b>ACCURACY</b>	0.1°C
		<b>CHANNEL</b>	Dual-channel. Provide T1; T2; ΔT

## OPTIONAL CONFIGURATIONS

<b>INVASIVE BLOOD PRESSURE (IBP)</b>		<b>GAS SORTS</b>	CO <sub>2</sub> , N <sub>2</sub> O, Des, Iso, Enf, Sev, Hal O <sub>2</sub> (optional paramagnetic sensor)
<b>MEASUREMENT RANGE</b>	-50~300mmHg	<b>MEASUREMENT RANGE</b>	CO <sub>2</sub> : 0 - 30% N <sub>2</sub> O: 0 - 100% O <sub>2</sub> : 0 - 100% Enf, Iso, Hal: 0 - 30% Sev: 0 - 30% Des: 0 - 30%
<b>CHANNEL</b>	up to 8 channels	<b>MEASUREMENT ACCURACY</b>	CO <sub>2</sub> : 0-1% ±0.1%, 1-5% ±0.2%, 5-7% 0.3%, 7-10% ±0.5%, >10%unspecified N <sub>2</sub> O: 0-20% ±2%, 20-100% ±3% Des: 0-1% ±0.15%, 1-5% ±0.2%, 5-10% ±0.4%, 10-15% ±0.6% 15-18% ±1%, >18unspecified. Sev: 0-1% ±0.15, 1-5% ±0.2%, 5-8% ±0.4, >8 unspecified. Enf, Iso, Hal: 0-1% ±0.15%, 1-5% ±0.2%, >5 unspecified. O <sub>2</sub> : 0-25% ±1%, 25-80% ±2%, 80-100% ±3%
<b>PRESSURE TRANSDUCER</b>	Sensitivity: 5mV/V/mmHg Impedance range: 300-3000W	<b>DATA OUTPUT</b>	Fi and ET values
<b>PRESSURE NAMES</b>	ART, PA, CVP, RAP, LAP, ICP, CPP	<b>RESPIRATION RATE</b>	±1 rpm (2 - 60 rpm) Unspecified (61 - 100 rpm)
<b>RESOLUTION</b>	1mmHg	<b>ALARM</b>	User selectable alarm limits for all Measurements
<b>ACCURACY</b>	2% or 1 mmHg, whichever is greater (exclusive of transducer)	<b>OTHER</b>	Up to 5 waveforms displayed Agent mixture detection MAC value displayed
<b>ALARM RANGE</b>	-10~300mmHg	<b>BISPECTRAL INDEX (BIS)</b>	
<b>PULSE RATE</b>	Range: 20~300bpm Resolution:1bpm Accuracy: 20-250bpm ±3bpm 251-300bpm unspecified Alarm range: 20~250bpm	<b>BIS RANGE</b>	0 - 100
<b>CARDIAC OUTPUT</b>		<b>SQI RANGE</b>	0 - 100%
<b>METHOD</b>	Thermodilution	<b>OTHER CALCULATED PARAMETERS</b>	Signal Quality Index(SQI), EMG Suppression Ratio(SR), TP
<b>MEASUREMENT RANGE</b>	CO: 0.1-20 L/min. TB: 23-43 TI: 0-27	<b>IMPEDANCE MEASUREMENT RANGE</b>	0 - 999 k Ω
<b>RESOLUTION</b>	CO: 0.1 L/min. TI: 0.1 TB: 0.1	<b>BIS SMOOTH RATE</b>	15s or 30s(default)
<b>ACCURACY</b>	CO: ±5% or ±0.1 L/min, whichever is greater TB: ±0.1 TI: ±0.1	<b>EEG SPECIFICATIONS</b>	EEG scales: 6.25uV / 12.5uV / 25uV / 50uV / 100uV Sweep speeds: 12.5 / 25 / 50 mm/sec Input Impedance:>50 M Ω Noise (RTI): <0.3uV RMS 0.25 - 50 Hz Input Range: ±1mV EEG Bandwidth: 0.25 - 110 Hz A/D Conversion: Noise shaped Sigma-Delta Sample Rate: 16,384 samples/second Patient Leakage: <10uA
<b>PARAMETER OUTPUT</b>	Cardiac output Hemodynamics calculation	<b>IMPEDANCE CARDIOGRAPHY (ICG)</b>	
<b>EtCO<sub>2</sub></b>		<b>METHOD</b>	Thoracic Bioimpedance measurement DISQTM(Digital Impedance Signal Quantifier)T echnology Z MARC (Impedance Modulating AoRtic Compliance) algorithm
<b>DISPLAYED NUMERICS</b>	EtCO <sub>2</sub> , FICO <sub>2</sub> , AwRR	<b>WAVEFORMS</b>	Thoracic Bioimpedance
<b>WAVEFORMS</b>	Capnography	<b>STROKE VOLUME(SV) RANGE</b>	5-250 ml/b
<b>MICROSTREAM CO<sub>2</sub></b>		<b>HEART RATE(HR) RANGE</b>	44-185 bpm
<b>CO<sub>2</sub> RANGE</b>	0-99 mmHg	<b>CARDIAC OUTPUT(CO) RANGE</b>	1.4-15 l/min
<b>ACCURACY</b>	0-38 mmHg ±2 mmHg 39-99 mmHg ±5% of reading + 0.08% for every 1 mmHg (above 38 mmHg)	<b>OTHER MEASURED PARAMETERS</b>	Flow, Resistance, Contractility, Fluid Status and Cardiac Work parameters: CO, CI, BSA, HR, SV, SI, SVR, SVRI, LCW, LCWI, LVSW, LVSWI, TFC, VEPT, ACI, TFI, PEP, VI, STR, LVET.
<b>RESOLUTION</b>	1 mmHg	<b>ALARM</b>	User selectable alarm limits for TFC, CI
<b>SAMPLING RATE</b>	50ml/min -7.5+15ml/min	<b>RESPIRATORY MECHANICS (RM)</b>	
<b>INITIALIZATION TIME</b>	30 seconds (typical), reaches ±5% steady-state accuracy within 3minutes	<b>METHOD</b>	Flow measurement based on micro differential pressure sensing
<b>RESPONSE TIME</b>	Typical value: 2.9s, including the rising time and the delay time (adopting the FilterLine of standard length) Rising time: <190ms (rising from 10% to 90%) Delay time: 2.7s (typical value)	<b>WAVEFORMS</b>	Airway Pressure,Flow, Volume, Loops (P-V, V-F)
<b>RESPIRATION RATE</b>	0 - 150 rpm	<b>FLOW</b>	Range: Adult, Pediatric: ±(2 - 120) l/min Neonate: ±(0.5 - 30) l/min Accuracy: 25 ml/s or ±10% of reading (Whichever is greater) Resolution: 0.1 l/min
<b>RESPIRATION RATE ACCURACY</b>	0 - 70rpm ±1rpm 71 - 120rpm ±2rpm 121 - 150rpm ±3rpm Adult, neonate	<b>PRESSURE UNIT</b>	User selectable cmH <sub>2</sub> O, kPa, or mmHg
<b>MODE</b>	Adult, neonate	<b>AIRWAY PRESSURE</b>	Range: -20.0 to 120.0 cmH <sub>2</sub> O Accuracy: ±3% of reading Resolution: 0.1 cmH <sub>2</sub> O
<b>SIIDESTREAM CO<sub>2</sub></b>		<b>MINUTE VOLUME</b>	Range: Adult, Pediatric: 2 - 60 l/min Neonate: 0.5 - 15 l/min Accuracy: ±5% of reading
<b>CO<sub>2</sub> MEASUREMENT RANGE</b>	0-99mmHg	<b>TIDAL VOLUME</b>	Range: Adult, Pediatric: 100 - 1500 ml Neonate: 20 - 500 ml Resolution: 1 ml Accuracy: ±15mL or ±10% of reading (whichever is greater)
<b>ACCURACY</b>	±2mmHg (0-40 mmHg) ±5% of reading (41-76 mmHg) ±10% of reading (77-99 mmHg)	<b>RESPIRATION RATE</b>	Range: 4 -120 rpm Accuracy: 4-99rpm: ±1 rpm 100-120rpm: ±2 rpm
<b>SAMPLING RATE</b>	150 ml/min	<b>I:E RATIO</b>	Range: 4.0:1 - 1:8.0 Accuracy: ±10% of reading
<b>SAMPLING RATE ACCURACY</b>	15%	<b>DEAD SPACE</b>	< 11 ml
<b>START-UP TIME</b>	<1min, once the module starts up It reaches ISO Accuracy Mode 10 minutes after start-up, the module reaches full accuracy mode	<b>OTHER MEASURED PARAMETERS</b>	Respiratory Mechanics parameters: FEV 1.0, Pmean, TV/TVe, MV/MVe, PEEP, PEF, PIF, PIP, Pplat Compliance, RAW, RSBI, NIP, WOB
<b>RESPIRATION RATE</b>	0-120 rpm	<b>ALARM</b>	User selectable alarm limits for Respiration Rate, PEEP, PIP, MVe
<b>RESPIRATION RATE ACCURACY</b>	±2 rpm (0-70 rpm) ±5 rpm (>70 rpm)		
<b>RESPONSE TIME</b>	<240 msec (10% to 90 %)		
<b>DELAY TIME</b>	< 2s (Sampling line length: 7 inches; internal diameter: 0.055 inches sampling gas flow rate: 150ml/min)		
<b>MAINSTREAM CO<sub>2</sub></b>			
<b>METHOD</b>	Infrared Absorption		
<b>MEASURING MODE</b>	Mainstream		
<b>MEASUREMENT RANGE</b>	CO <sub>2</sub> : 0-150 mmHg AwRR: 0-150 rpm CO <sub>2</sub> : 1mmHg		
<b>RESOLUTION</b>	CO <sub>2</sub> : 1mmHg		
<b>ACCURACY</b>	Co <sub>2</sub> concentration: ±2 mmHg (0-40 mmHg) ±5% of reading (41-70 mmHg) ±8% of reading (71-100 mmHg) ±10% of reading (101-150 mmHg) AwRR: 1 rpm		
<b>ALARM RANGE</b>	Same as Measurement range		
<b>MULTI-GAS/O<sub>2</sub></b>			
<b>METHOD</b>	Infrared Absorption / Paramagnetic		

# PM-1000M+ PATIENT MONITOR



LARGE 17" (1280X1024 OPTIONAL) OR 12.1" (800X600) COLOR TFT DISPLAY.  
SUPPORTS UP TO 40 WAVEFORMS WITH UP TO 3 DISPLAYS (1 non-independent; 2 Independent) .  
TOUCH SCREEN (OPTIONAL)



STANDARD INTEGRATED 5 SLOTS SUPPORTS  
UP TO 13 SLOTS WITH EXTERNAL  
SATELLITE MODULE RACK (OPTIONAL)



MEMORY CARD SLOT  
INTERNAL PRINTER (OPTIONAL)



REAR PANEL PORTS FOR INDEPENDENT DISPLAYS,  
EXTERNAL KEYBOARD, MOUSE OPTIONS

**Standard Configurations:** ECG/RESP, NIBP, TEMP, SpO2, One Battery.

**Optional Configurations:** Touch Screen, Large 17" Screen, Printer, Cardiac Output, EtCO2, Microstream CO2, Sidestream CO2, Maintream CO2, Multi-Gas/O2, Bispectral Index(Bis), Impedance Cardiography (ICG), Respiratory Mechanics (RM), Backup Battery



Contact us for additional information.

Note: Specifications subject to change without notice.



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