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iM 8

Technical Specifications

Product Specifications

1.Safety Specifications

1.1Product Classification

Components	Type of Protection Against Electric Shock	Level of Protection Against Electric Shock	Liquid Intake Protection Grade	Level of Protection Against Explosion	Operating Mode
Host	Ⅰ	Non-nominal	General Equipment	Unsuitable	Continuation
ECG Module	NA	CF(*)			
NIBP Measuring Module		BF(*)			
Temp Measuring Module					
SpO2 Measuring Module					

1.2 Environment Specifications

Equipment Environment			
Item	Temperature	Humidity (Non-Condensing)	Atmospheric Pressure
Operating	5℃～40℃	30%～80%	525 mmHg～795 mmHg

	（41°F～104°F）		（70 kPa～106 kPa）
Storage & Transport	-20℃～60℃ （-4°F～140°F）	10%～95%	375 mmHg～805.5 mmHg （50.0 kPa～107.4 kPa）

1.3 Power Specifications

AC power supply voltage	100~240VAC
AC power frequency	50/60 Hz
Fuse specification	T3.15AL/250V Φ5×20mm
Internal power supply	12VDC (rechargeable)
Battery specification	11.1V ,4.4AH
Security Level	Category I ,Type BF, CF

2. Physical Specifications

Weight	Net weight 3.4kg
Size (L×W×H)	183×198×279 mm

3. Hardware Specifications

Display	
Type	Type TFT LCD Screen
Dimensions	3.5 inches
Resolution	320X240
Recorder	

Type	Thermal array recorder
Sensitivity selection tolerance	±5%
Recording speed	25mm/s
Recording speed accuracy	±10%
Hysteresis	≤0.5mm
Frequency response	Monitoring mode: 0.5~40Hz
Time constant	Monitoring mode: ≥0.3s
Waveform	Maximum 2 waveforms
Paper width	50mm
Battery	
Type	Rechargeable lithium battery
Rated voltage	11.1V
Length of Power Supply	6 hours
Maximum charging time	8 hours

4. Data Storage

NIBP Measuring Result	12000 groups
SpO2 and HR trend data	96 hours
SpO2 Measuring Result	2000 groups
ECG waveform storage	2 hours

5. Measuring Specifications

5.1ECG Monitoring

Input signals range in amplitude	±(0.4mVp ~ 5mVp)
Heart rate display range	20bpm~300bpm
Heart rate display accuracy	±1% or ±2bpm, whichever is greater
Heart rate averaging	Averages the recent eight beats having RR intervals falling within the acceptable limits
Heart rate alarm delay time	≤10s
Response time to change in heart rate	Change from 80bpm to 120bpm: <8 sec
	Change from 80bpm to 40bpm: <8 sec
Tall T-wave rejection	Rejects all T-wave less than or equal to 120% of 1mV QRS
Sensitivity selection	×1/2, 5mm/mV tolerance: ±5% ×1, 10mm/mV tolerance: ±5% ×2, 20mm/mv tolerance: ±5%
Sweeping speed	25mm/s tolerance: ±10%
ECG noise level	≤30μVp-p
ECG input loop current	≤0.1μA
Differential input impedance	≥5MΩ
Common-mode rejection ratio (CMRR)	≥89dB
Time constant	≥0.3s

Frequency response:	0.5 Hz～40Hz()

5.2 Temp Monitoring

Measuring range	25.0℃~45.0℃
Measuring accuracy	±0.2℃
Responding time	≤150s

5.3 NIBP Monitoring

Measuring method	Oscillometric Technique				
Pneumatic pressure measuring range	0 mmHg~300mmHg				
Accuracy of pressure measurement	±3 mmHg				
Cuff inflation time	10 seconds (typical adult cuff)				
Measurement time on the average	< 90 seconds				
Air release time while the measurement is canceled	<2 seconds (typical adult cuff)				
Initial cuff inflation pressure	Adult: <180 mmHg; Pediatric: <120 mmHg; Neonate: <90 mmHg				
Overpressure protection limit	Adult: 300 mmHg; Pediatric: 240mmHg; Neonate: 150 mmHg				
NIBP measurement range	Blood Pressure (unit)		Adult	Pediatric	Neonate
	Systolic Pressure	mmHg	40~255	40~200	40~135
	Mean Pressure	mmHg	20~215	20~165	20~110

	Diastolic Pressure	mmHg	10~195	10~150	10~95
NIBP accuracy	Maximum mean error: ±5 mmHg				
	Maximum Standard deviation: 8 mmHg				
Measurement mode	Manual, Auto, STAT				

5.4 SpO2 Monitoring

Transducer:	Dual-wavelength LED	
	Measurement wavelength	red: 663 nm
		infrared: 890 nm
	Maximal optical output power: less than 2mW maximum average	
SpO2 measuring range	35%~100%	
Low perfusion capability	0.4%~5%	
SpO2 measuring accuracy	Not greater than 3% for SpO2 range from 70% to 100% (*NOTE: accuracy defined as root-mean-square value of deviation according to ISO 9919)	
Low perfusion performance	Low perfusion performance: the declared accuracy is attained when the pulse amplitude modulation ratio is as low as 0.4%	

5.5Pulse Monitoring

PR measuring range	30bpm~240bpm
PR measuring accuracy	±2bpm or ±2%, whichever is greater

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