

Specification: C86



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Patient Monitor

C86



Standard Configuration:

5-lead ECG, RESP, Temp (Single Channel), COMEN SpO2, NIBP, HR

Optional Configuration:

Dual-IBP, EtCO2, AG, ICG, C.O., BIS, Nellcor/Masimo SpO2, 3/12-lead ECG, Thermal Recorder, Dual-Temp, Suntech NIBP, Trolley, Wall mount, Ground wire

Safety Standards:

IEC 60601-1 IEC 60601-1-8 IEC 60601-2-27 EN 1060-3 IEC 80601-2-30 IEC60601-2-34 IEC60601-2-49 ISO 80601-2-56 ISO 80601-2-61

Physical Characteristics:

Product Size: 344mm*291mm*165mm
Weight: 4.1kg
Display: 15" color TFT touch screen
Resolution: 1024*768
IP grade IPX1
Trace: 8 waveforms

Operation Environment:

Working Temperature 5-40°C
Humidity: ≤93%
Power Supply 100-240V~, 50/60Hz±1Hz
Battery Type: Rechargeable Lithium-ion battery
Battery Capacity: 2200mAh (optional: 4400mAh)
Battery Recharging Time: Maximum 5.5 hours for charging;
Battery backup: 2 hours for continuous working

Indicator:

One alarm indicator
Power indicator
Battery indicator

QRS beep and alarm sound
Operating key sound

Interface:

Parameter cable interface
AC power input socket
Two USB port
RJ45 port
Multi-functional interface
VGA output

Optional

Data storage

Alarm Event Recall: 200 groups
Wave Recall: 6 hours (8 waves)
NIBP Recall: 2000 groups
Trend Graph: 160 hours
Trend Table: 160 hours
Power-off storage: Yes
Alarm: User-adjustable High and Low 3-level Limits;
Prioritized audible and visual alarm
Network: Connected to Central Monitoring System by hardwire/wireless

Recorder:

Type: Built-in; Thermal array
Channel: 3 channel waveforms
Speed: 25mm/s, 50mm/s
Record width: 50mm
Real-time record time: 8s, 16s, 32s or continual
Alarm record: Yes

Respiration:

Method:	RA-LL Impedance Method	ST SEGMENT	
RR measurement		detection:	-2.0mV~+2.0mV (Automatic)
Range	Adult: 0-120rpm Pediatric/Neonate:0-150rpm	Arrhythmia	
Accuracy:	7~150rpm: ± 2 rpm or 2%, whichever is greater 0-6rpm: unspecified	Analysis:	26 types
Resolution:	± 1 rpm	Pacemaker	
RESP Apnea	10s-60s (Adu); 10s-40s (Ped/Neo)	detection:	Detectable
Alarm:	Audible and visual alarm; alarm events reviewable	Alarm:	Yes, audible and visual alarm, alarm events reviewable
Sweep Speed:	6.25,12.5,25mm/s	12 lead ECG	
Gain Selection:	X0.25, X0.5, X1, X2, X4	Analysis:	Yes
ECG:		NIBP:	
Lead Type:	CardioTec™5-leads ECG Analysis, 12-Lead and 3-leads electable	Method	Automatic oscillation
Lead selection	12-Lead I; II; III; aVR; aVL; aVF; V1-V6. 5-lead: I; II; III; aVR; aVL; aVF; V 3-lead: I; II; III	Work mode:	Manual / Automatic/Continual (5min, not applicable to neonates)
Waveform	5-lead: 2 -channel 3-lead: 1 -channel	Measurement time:	Adjustable(1-480min)
Gain Selection:	X0.125, X0.25, X0.5, X1, X2, X4, auto error $< \pm 5\%$	Maximum	
Sweep Speed:	6.25,12.5, 25, 50mm/s, error $\leq \pm 10\%$	measurement time	Adu/Ped: 120s; Neo: 85s
Resp, lead disconnection		Measurement Unit:	mmHg / kpa selectable
detection and active noise	AC waveform: Current : $<0.1\mu A$;	Measurement	
control:	Frequency 64kHz, $\pm 10\%$	types:	Systolic, Diastolic, Mean
CMRR	≥ 105 dB	Range of systolic pressure:	Adult Mode: 40-270mmHg Pediatric Mode: 40-200mmHg Neonate Mode: 40-135mmHg
Heart Rate measurement		Range of diastolic pressure:	Adult Mode: 10-215mmHg Pediatric Mode: 10-150mmHg Neonate Mode: 10-100mmHg
Range:	Adult: 15~300bpm Pediatric/Neonate:15~350bpm	Range of mean pressure:	Adult Mode:20-235mmHg Pediatric Mode:20-165mmHg Neonate Mode 20-110mmHg
Accuracy:	$\pm 1\%$ or ± 1 bpm (whichever is greater)	Static pressure range and accuracy:	0~300mmHg(0kPa~40.0kPa) ± 3 mmHg(± 0.4 kPa)
Protection:	Withstand 4000VAC/50Hz voltage in isolation, Again electrosurgical interference and defibrillation	Over-pressure protection:	Adult Mode: 297mmHg Pediatric Mode: 240mmHg Neonate Mode: 147mmHg Accuracy: ± 3 mmHg
Accuracy:	$\pm 1\%$ or ± 1 bpm (whichever is greater)	Initial pressure range(mmHg):	Adult: 80~240; Pediatric: 80~200; Neonate:60~120
Band width:	Monitoring Mode: 0.5-40Hz Diagnosis mode: 0.05-150Hz Surgery mode:1-20Hz ST mode: 0.05-40Hz		

Alarm:	Systolic, Diastolic, Mean	±3% (70-100%, Neo, non-motion)
PR from NIBP:	Measurement & alarm range: 40-240bpm Resolution: 1bpm Accuracy: ±3bpm or ±3%, whichever is greater	Unspecified (1-69%)
Nellcor SpO₂:		
Measurement		Data averaging and other signal
Range	0-100%	processing time: 2s
Alarm Range	20-100%	Data refresh rate: 8s
Resolution:	1%	PR Measurement
Accuracy:	±2% (70-100%, Adu/Ped, non-motion) ±3% (70-100%, Neo, non-motion) 1-69% unspecified	Range: 20--254bpm
Alarm Range:	20-100%	Resolution: 1bpm
PR Measurement		Accuracy: ±2bpm
Range:	20-300bpm	Alarm range: 20~254bpm
Resolution:	1bpm	Perfusion index: 0.05%~20%
Accuracy:	±3bpm (20-250bpm); Unspecified (251-300bpm)	Resolution: 0.01% (within 0.05%~9.99% range) or 0.1% (within 10.0%~20.0% range)
Alarm Range:	20~300bpm	
Masimo SpO₂:		
Measurement & alarm Range	1~100%	
Resolution:	1%	
Accuracy:	±2% (70-100%, Adu/Ped, non-motion) ±3% (70-100%, Neo, non-motion) 1-69% unspecified	
Alarm range	1~100%	
PR Measurement		
Range	25~240bpm	
Resolution:	1bpm	
Accuracy:	±3bpm (non-motion) ±5bpm (motion);	
Alarm range:	25~240bpm	
Perfusion index:	0.02~20%	
	Resolution: 0.01% (within 0.02%~9.99% range) or 0.1% (within 10.0%~20.0% range)	
COMEN SpO₂:		
Measurement & alarm Range	0~100%	
Resolution:	1%	
Accuracy:	±2% (70~100%, Adu/Ped, non-motion)	
Temperature (Dual Channel)		
Range:	20-50°C	
TEMP sensor:	Skin/rectal TEMP sensor	
Resolution:	0.1°C	
Accuracy:	±0.1°C (exclusive of error of sensor)	
Channel:	T1, T2, TD (Temperature Difference)	
EtCO₂		
Unit:	mmHg, kPa	
Measurement range:	0mmHg~150mmHg	
Resolution	1mmHg or 0.1kPa or 0.1%	
Accuracy	0mmHg ~40mmHg should be±2mmHg; 41mmHg ~70mmHg should be±5%×reading; 71mmHg ~100mmHg should be±8%×reading; 101mmHg~150mmHg should be±10%×reading	
Oxygen compensation		
	0~100 mmHg	
Equilibrium gas		
	Helium, room air, nitrous oxide	
IBP		
Channel:	2 Channels	
Measured Pressure:	ART, PA, CVP, RAP, LAP, ICP, LV, AO, UAP, BAP, FAP, UVP, IAP, P1, P2, P3, P4	
Measurement Unit:	mmHg/ kPa selectable	
Measurement		
Range:	ART: 0~300mmHg PA: -6~120 mmHg	

	CVP: -10~40mmHg
	RAP: -10~40mmHg
	LAP: -10~40mmHg
	ICP: -10~40mmHg
	LV: 0~300mmHg
	AO: 0~300mmHg
	UAP: 0~300mmHg
	BAP: 0~300mmHg
	FAP: 0~300mmHg
	UVP: -10~ 40mmHg
	IAP: -10~40mmHg
	P1, P2, P3, P4: -50~300mmHg
Accuracy:	±2% or ±1mmHg, whichever is greater
Resolution:	0.1kPa or 1mmHg (-50mmHg~300mmHg)
Alarm Range:	-50mmHg~300mmHg
Pressure sensor:	sensitivity: 5 V/V/mmHg Impedance range: 300~3000Ω
PR from IBP:	Measurement & alarm range: 20bpm~350bpm Resolution: 1bpm Accuracy: ±1bpm or ±1%, whichever is greater

AG

AG (complies with ISO 80601-2-55)

Method:	Infrared Radiation Absorption
	Characteristics
AG preheating time	<20s
Gas sorts:	CO ₂ , N ₂ O, DES, ISO, ENF, SEV, HAL, O ₂ (optional paramagnetic sensor)
Measurement range:	CO ₂ : 0~15%: ±(0.2kPa+reading×2%), 15~25%: unspecified N ₂ O: 0~100 %: ±(2kPa+reading×2%) HAL, ISO, ENF: 0~8%: ± (0.15%+reading×5%); 8~25vol%: unspecified SEV: 0~10%: ± (0.15%+reading×5%); 10~25vol %: unspecified DES: 0~22%: ± (0.15%+reading×5%); 22~25%: unspecified O ₂ : 0-100%: ± (1%+reading×2%)

Data output:	Fi and Et values
AG resolution:	CO ₂ : 1mmHg awRR: 1rpm
Accuracy:	For all measured values complies with EN ISO 21647:2004 and EN 864:1996
Alarm:	EtCO ₂ : 0mmHg~190mmHg Fi CO ₂ : 0mmHg~190mmHg AwRR: 2mmHg~150mmHg EtO ₂ : 18% ~ 100% FiO ₂ : 18% ~ 100% EtN ₂ O: 0% ~ 100% FiN ₂ O: 0% ~ 82% EtHal/EtEnf/EtIso/EtSev/EtDes: 0% ~ 25% FiHal/FiEnf/FiIso/FiSev/FiDes: 0% ~ 25%
Others:	Up to 4 waveforms displayed MAC value displayed

ISATM (AG) Sidestream Gas Analyzer

Method:	Infrared gas measurement
No Breaths	
Timeout range	Adult: 10s, 15s, 20s, 25s, 30s, 35s, 40s ,45s, 50s, 55s or 1min; Pediatric and neonate: 20s, 25s, 30s, 35s or 40s Accuracy: ± 5s
No Breath Alarm	
Delay:	10s, 15s, 20s, 25s, 30s, 35s, 40s, 45s, 50s, 55s, 1min or Off
Working conditions:	ISA AX+: 0~50°C (32~122°F); ISA OR+: 5~50°C (41~122°F)
Storage conditions	-40~70°C (-40~158°F)
RH	<4kPa H ₂ O (non-condensing) 95% RH, 30°C
Barometric pressure	52.5~120kPa (4572m)
Water treatment	Sampling tube: patented dehydration tube
Data output:	Fi and Et values
Waveform:	Display up to 4 gas concentration waveforms at a time
Diagnostic parameter:	Barometric pressure

ISA sensor:	2~9-channel NDIR gas analyzer (measurement range: 4~10μm)
Compensation:	CO2 broadening effect
Calibration	No calibration is required. The Monitor will auto perform zeroing when powered on and perform auto zeroing every 24h (ISACO2) or 8h (ISA AX+/OR+) subsequently.
Preheating time	ISA CO2: <10s; ISA OR+/AX+: < 20s
Rise time	CO2: ≤250ms; N2O: ≤ 350ms; anesthetic gases: ≤ 350ms; O2: ≤ 450ms
Overall system response time	<3s (2m sampling tube)
Respiration detection	Self-adaptive threshold (minimum CO2 concentration change: 1 vol%)
RR	0~150 breaths/min
Anesthetic gas threshold	Threshold of main anesthetic gases (ISA OR+/AX+): 0.15 vol%. The concentration of any identified anesthetic gas will be reported, even if it is lower than 0.15 vol%

Cardiac Output (C.O.)

Method:	Thermodilution
Range:	C.O.: 0.1~20L/min BT: 25~43°C IT: 0~25°C
Resolution:	C.O.: 0.01L/min BT, IT: 0.1°C
Accuracy:	C.O.: ±5% or ±0.1 L/min, whichever is greater BT, IT: ±0.1°C (no sensor)
Alarm Range:	BT Hi limit: (LO limit +0.4)-43°C BT Lo limit: 25.0~(Hi limit-0.4) °C

Step: 0.1°C

Impedance Cardiography (ICG)

Method:	Indirect measurement by the impedance cardiogram
Measurement range:	SV: 5~250 ml/ beat HR: 40~250 bpm C.O.: 1.4~15 L/min
Accuracy:	HR: ±2bpm C.O.: Unspecified SV: unspecified
Alarm range:	C.I.: 0~15.0L/min/m2 TFC: 10~150KΩ
Alarm Deviation	C.I.: ±0.1L/min/m2 TFC: ±1k Ω

BIS

Measurement range:	BIS: 0~100; Accuracy: 1% SQI: 0~100%; Accuracy: 1% EMG: 0~100dB; Accuracy: 1% ESR: 0~100%; Accuracy: 1%
Resolution:	1
Alarm range:	BIS: 0~99

Wall Mounting

Net weight:	3.1kg
Bracket:	275*150*165mm
Length (Support Arm)	330mm
Max. Slip	140mm
Rotation	180°

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