

# Specifications: 8000F

The graphic features the word "COMEN" in large, bold, white 3D block letters. Above the letters, a cluster of smaller, semi-transparent "COMEN" text elements is arranged to form a stylized map of China. The entire graphic is set against a blue background that has a subtle gradient and a faint, larger-scale pattern of the word "COMEN".

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## **SHENZHEN COMEN MEDICAL INSTRUMENT CO.,LTD**

Floor 10, Floor 11 and Section C of Floor 12 of Building 1A & Floor 1 to Floor 5 of Building 2, FIYTA Timepiece Building, Nanhuan Avenue, Matian Sub-district, Guangming District, Shenzhen, Guangdong, 518106,P.R. China

Tel: +86-755-26408879

Fax: +86-755-26431232

Email: [infoatszcomen.com](mailto:infoatszcomen.com)

Web: [en.comen.com](http://en.comen.com)

# Patient Monitor

## 8000F



### Standard Configuration:

3/5-lead ECG, RESP, Comen SpO<sub>2</sub>, NIBP, HR, Temp (Single Channel),

### Optional Configuration:

Dual-IBP, EtCO<sub>2</sub>, Dual-Temp, Nellcor/Masimo SpO<sub>2</sub>, Thermal Recorder, 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:

Size: 300mm×278 mm×150mm  
Weight: 2.72kg  
Screen Size: 12.1" color TFT screen (Option: touch screen)  
Resolution: 800 × 600  
Waveforms: Up to 9 waveforms  
Ingress Protection: IPX1

### Operation Environment:

Working Temperature: 0-40°C  
Humidity: ≤93%  
Power Supply: 100-240V~, 50/60Hz±1Hz  
Battery Type: Rechargeable Lithium-ion battery  
Battery Capacity: 2200mAh (option: 4400mAh)  
Battery Recharging Time: Maximum 3 hours for charging; 2 hours for continuous working  
Battery backup: Manual from 10 to 100  
Brightness:

### Indicator:

Two Alarm indicators  
Power indicator  
Battery indicator  
QRS beep and alarm sound  
Key backlight

### Interface:

Parameter cable interface

AC power input

USB port, compatible with bar code reader input (automatic recognition)

RJ45 port

Multi-functional interface

Optional:

### Data storage

Alarm Review: 200 groups  
Wave Review: 6 hours (8 waves)  
NIBP Review: 2000 groups  
Trend Graph: 160hours  
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  
External printer: Yes

### Respiration:

Method: RA-LL Impedance Method  
RR measurement range: Adult: 0-120rpm  
Pediatric/Neonate: 0~150rpm  
Accuracy: 7~150rpm: ±2rpm or 2%, whichever is greater; 0~6rpm: unspecified  
Resolution: 1 rpm  
RESP Apnea: 10s~60s(Adu); 10s~40s (Ped/Neo)  
Alarm: Audible and visual alarm; alarm events reviewable  
Sweep Speed: 6.25, 12.5, 25mm/s  
Gain Selection: X0.25, X0.5, X1, X2, X4

### ECG:

Lead Type:	CardioTec™5-leads ECG Analysis, 12-Lead and 3-leads selectable	Range of diastolic pressure:	Adult Mode:10-215mmHg Pediatric Mode:10-150mmHg Neonate Mode 10-100mmHg
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	Range of mean pressure:	Adult Mode:20-235mmHg Pediatric Mode:20-165mmHg Neonate Mode 20-110mmHg
Gain Selection	1.25mm/mV, 2.5mm/mV, 5.0mm/mV, 10mm/mV, 20mm/mV, 40mm/mV, Auto. Manual replacement. Plus $\pm 750\text{mV}$ DC polarization voltage; sensitivity change range: $\pm 5\%$ .	Over-pressure protection:	both hardware and software over pressure protection
Sweep Speed:	6.25,12.5, 25, 50mm/s	Accuracy:	$\pm 3\text{mmHg}$
Heart Rate Range:	Adult: 15-300bpm Pediatric/Neonate:15-350bpm	Resolution:	1mmHg
Resolution:	1 bpm	Alarm:	Systolic, Diastolic, Mean
Accuracy:	$\pm 1\%$ or $\pm 1\text{bpm}$ (whichever is greater)	PR from NIBP:	40-240bpm
Protection:	Withstand 4000VAC/50Hz voltage in isolation; Against electrosurgical interference and defibrillation;	Resolution:	1bpm
Bandwidth:	MON Mode:0.5 Hz~40 Hz DIA Mode: 0.05Hz~150 Hz OPE Mode:1 Hz~20 Hz ST Mode:0.05Hz~40Hz	Accuracy:	$\pm 3\%$ or $\pm 3\text{bpm}$ , whichever is greater
CMRR:	MON Mode: >105dB DIA Mode: >90dB OPE Mode: >105dB ST Mode: >105dB	Measurement range	0~100%
Input Impedance:	$\geq 5\text{M}\Omega$	Resolution:	1%
ST detection:	-2.0mV~ +2.0 mV (Automatic)	Accuracy:	$\pm 2\%$ (70~100%, Adu/Ped, non-motion) $\pm 3\%$ (70~100%, Neo, non-motion) 1~69% unspecified
Resolution:	0.01mV	Alarm range:	20~100%
Accuracy:	-0.8mV ~ +0.8mV: $\pm 0.02\text{mV}$ or $\pm 10\%$ ; Others: Unspecified	PR Measurement Range:	20~300bpm
Arrhythmia analysis:	26 Types	Resolution:	1bpm
pacemaker detection:	Detectable	Accuracy:	$\pm 3\text{bpm}$ (20~250bpm); Unspecified (251~300bpm)
<b>NIBP:</b>		Alarm Range:	20~350bpm
Method	Automatic Oscillometric	<b>Masimo SpO<sub>2</sub>:</b>	
Work mode:	Manual / Automatic/Continuous	Measurement & alarm range	1~100%
Measurement time:	Adjustable(1-480min)	Resolution:	1%
Measurement time:	Adjustable(1-480min)	Accuracy:	$\pm 2\%$ (70~100%, Adu/Ped, non-motion) $\pm 3\%$ (70~100%, Neo, non-motion) 1-69% unspecified
Maximum measurement time:	Adu/Ped: 120s; Neo: 85s	PR Measurement Range:	25~240bpm
Measurement types:	Systolic, Diastolic, Mean	Resolution	1bpm
Range of systolic pressure:	Adult Mode:40-270mmHg Pediatric Mode:40-200mmHg Neonate Mode 40-135mmHg	Accuracy:	$\pm 3\text{bpm}$ (non-motion) $\pm 5\text{bpm}$ (motion)
		Alarm Range:	20~350bpm
		PI value:	0.02~20%
		Resolution:	0.01% (0.02%~9.99%) 0.1% (10.0%~20.0%)
		Accuracy:	unspecified
		<b>Comen SpO<sub>2</sub>:</b>	
		Measurement & alarm range	0~100%
		Resolution:	1%
		Accuracy:	$\pm 2\%$ (70~100%, Adu/Ped, non-motion)

	±3% (70-100%, Neo, non-motion) Unspecified (0-69%)
PR measure	
Range:	20-250bpm
Resolution:	1bpm
Accuracy:	±1bpm
Alarm Range:	0~300bpm
PI value:	0.05~20%
Resolution:	0.01% (0.05%~9.99%) 0.1% (10.0%~20.0%)
Accuracy:	Unspecified

## Temperature (Dual Channel)

Measurement & alarm range:	0~50°C
Sensor:	Skin/rectal TEMP sensor
Resolution:	0.1°C
Accuracy:	±0.1°C (exclusive of error of sensor)
Channel:	T1, T2, TD (Temperature Difference)

## Comen EtCO<sub>2</sub> (Mainstream)

size	48mm * 24.3mm * 32.8mm
Measurement & alarm range:	0 – 114 mmHg, 0 – 15 %, 0 – 15.2 kPa(at 760 mm Hg)
Accuracy:	0 – 40mmHg ±2 mmHg 41 – 76 mmHg ±5% of reading 77 – 114 mmHg ±8% of reading Above 80 BPM ±12% of reading
Response Time	Capnogram displayed in less than 3 seconds, full specifications within 3 minutes (At 25°C)
CO2 Resolution	0.1mmHg 0 to 38 mmHg 0.25 mmHg 39 to 114mmHg
CO2 Stability	Short term drift: Drift over four hours shall not exceed 1 mmHg maximum Long term drift: Accuracy specification will be maintained over a 120-hour period
Sampling Frequency	100 Hz
awRR range:	3-150 bpm
awRR accuracy:	±1 breath
Voltage Requirements	5.0 VDC ±5%, 2W
Power Consumption	Less than 1.0 Watts typical (Steady State) Up to 1.8 Watts maximum on power up (Warm up)
Temperature and Humidity	Operating: 0 to 40°C, 10 to 90% RH, non-condensing Storage: -40 to 70°C, <90% RH, non-condensing
Water Resistance	IPX4 (sensor head only)

## Comen EtCO<sub>2</sub> (Sidestream)

size	101mm * 78mm * 46mm
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Measurement & alarm range:	0 – 114 mmHg, 0 – 15 %, 0 – 15.2 kPa(at 760 mm Hg)
Accuracy:	0 – 40mmHg ±2 mmHg 41 – 76 mmHg ±5% of reading 77 – 114 mmHg ±8% of reading Above 80 BPM ±12% of reading
Response Time	Capnogram displayed in less than 3 seconds, full specifications within 5 minutes (At 25°C)
CO2 Resolution	0.1mmHg 0 to 38 mmHg 0.25 mmHg 39 to 114mmHg
CO2 Stability	Short term drift: Drift over four hours shall not exceed 1 mmHg maximum Long term drift: Accuracy specification will be maintained over a 120-hour period
Sampling Frequency	100 Hz
awRR range:	3 to 150 Breaths Per Minute (BPM)
awRR accuracy:	±1 breath
Voltage Requirements	5.0 VDC ±5%
Power Consumption	Less than 1.2 Watts typical (Steady State) Up to 2 Watts maximum on power up (Warm up)
Temperature and Humidity	Operating: 0 to 40°C, 10 to 90% RH, non-condensing Storage: -40 to 70°C, <90% RH, non-condensing
Water Resistance	IPX4 (sensor head only)

## Respironics EtCO<sub>2</sub> (SideStream)

Measurement & alarm range:	0~150 mmHg, 0~20kPa (at 760mmHg)
Accuracy:	± 2 mmHg (0~40 mmHg) ± 5% of reading (41~70 mmHg) ± 8% of reading (71 –100 mmHg) ± 10% of reading (101 –150 mmHg)
awRR range:	2-150rpm
awRR accuracy:	±1rpm

## Respironics EtCO<sub>2</sub>(mainStream)

Measurement & alarm range:	0~150 mm Hg, 0~20kPa (at 760mmHg)
Accuracy:	±2mmHg (0~40 mmHg) ±5% of reading (41~70 mmHg) ±8% of reading (71~100 mmHg) ±10% of reading (101~150 mmHg)
awRR range:	0-150rpm
awRR accuracy:	±1rpm
Response time:	<240msec (10%~90%)
Delay time:	<2s

## Masimo EtCO<sub>2</sub> (SideStream)

Measurement & alarm range:	0~190 mm Hg, 0~25% (at 760mmHg)
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Accuracy: Standard environment  $22 \pm 5^{\circ}\text{C}$ ,  $1013 \pm 40\text{hpa}$ :  
 $0 \sim 15\%: \pm(0.2\% + \text{reading} \times 2\%)$   
 $15 \sim 25\%: \text{not defined}$   
 All environment:

awRR range 0~150rpm

awRR accuracy  $\pm 1\text{rpm}$

## Masimo EtCO<sub>2</sub> (mainstream)

Measurement &

alarm range: 0 -190 mm Hg, 0 – 25% (at 760mmHg)

Accuracy: Standard environment  $22 \pm 5^{\circ}\text{C}$ ,  $1013 \pm 40\text{hpa}$ :  
 $0 \sim 15\%: \pm(0.2\% + \text{reading} \times 2\%)$   
 $15 \sim 25\%: \text{not defined}$   
 All environment:  
 $\pm(0.3\text{kPa} + \text{reading} \times 4\%)$

awRR range 0-150rpm

awRR accuracy  $\pm 1\text{rpm}$

## IBP

Channel: 2 Channels

Measured Pressure: ART, PA, CVP, RAP, LAP, ICP, LV, AO, UAP, BAP, FAP, UVP, IAP, P1, P2,

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: -50~300mmHg

Accuracy:  $\pm 2\%$  or  $\pm 1\text{mmHg}$ , whichever is greater

Resolution: 0.1kPa or 1mmHg (-50mmHg~300mmHg)

Alarm Range: -50mmHg~300mmHg

PR from IBP: 20bpm~350bpm

Resolution: 1bpm

Accuracy:  $\pm 1\%$  or  $\pm 1\text{bpm}$ , whichever is greater

Alarm Range: 20bpm~350bpm

**\*Notice: Specifications subject to changes without prior notice. All rights reserved by Comen**

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