

Specification: S5

The logo features the word "COMEN" in large, bold, white, 3D-style capital letters. Above the letters, a curved path of smaller, semi-transparent "COMEN" text forms an arc, suggesting a globe or a path. The background is a blue gradient with a subtle globe-like shape at the bottom.

COMEN Share with the world

SHENZHEN COMEN MEDICAL INSTRUMENTS CO.,LTD

No.2 of FIYATA Timepiece Building, Nanhuan Avenue, Gongming
sub-district, Guangming District, Shenzhen, P.R. China

Tel: +86-755-26408879

Fax: +86-755-26431232

Email: info@szcomen.com

Web: www.comen.com

Defibrillator/ Monitor

S5



Standard Configuration:

Manual defibrillation, AED, 3/5-lead ECG, RESP, Thermal Recorder

Optional:

Pacer, NIBP, PR, SpO₂, EtCO₂ (Specific parameters refer to CO₂ module parameter table),

Physical Characteristics

Size: 295mm×252mm×316mm
 Weight: 5.6kg (Including 1 battery); 5.384 (Main unit)
 Screen Size: 7" TFT screen
 Resolution: 800 × 480
 Waveforms: Max 4 waveforms

Operation Environment

Temperature: 0~45°C
 Humidity: 10%~95%, non-condensation
 Atmosphere Pressure: 700hPa~1060hPa
 Ingress Protection: IP44
 Power requirement: 100-240V~, 50/60Hz±3Hz
 Battery type: Rechargeable Lithium-ion battery
 Battery capacity: 7500mAh, d.c.14.8V
 5000mAh, d.c.14.8V
 Battery number: 1
 Battery recharging Time: 7500mAh Battery: Less than 2 hours to 80% and less than 3 hours to 100% with equipment power off
 5000mAh Battery: Less than 1.5 hours to 80% and less than 2.5 hours to 100% with equipment power off
 Battery backup: 7500mAh Battery: Monitoring Mode: no less than 6 hours
 Defib Mode: 210 times (360J charge at intervals of 1minute without recording);

Pacing Mode: 4.5 hours (Load:50 Ω, frequency: 80bpm, current: 60mA, without recording)

5000mAh Battery:

Monitoring Mode: no less than 4 hours

Defib Mode: 120times (360J charge at intervals of 1minute without recording);

Pacing Mode: 3hours (Load:50 Ω, frequency: 80bpm, current: 60mA, without recording)

Brightness:

Manual from X to 100, X refers to the darkest brightness (X is 10 by default)

Indicator

Two alarm indicators
 Power indicator
 Battery indicator
 Maintain indicator
 QRS beep and alarm sound
 Operating key sound

Interfacing

USB interface
 RJ45 interface
 AC power input
 Multi-functional connector

Date storage

Alarm Event: 200 groups
 Patient profiles: 100 groups
 Patient Events: 1000 groups
 Wave Review: 10min
 NIBP Review: 2000 groups
 Trend Graph: 160 hours
 Trend Table: 160 hours
 Voice recording: Max 240 min in total;

(Up to 60 min for each patient)

Marked events	Available
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:	Max 3 channel waveforms
Real-time recording:	3s, 5s, 8s, 16s, 32s, Continual
Speed:	6.25mm/s, 12.5mm/s, 25mm/s, 50mm/s
Record width:	50mm
Resolution:	8dot/mm (Horizontal and vertical)
Background grid:	Configurable
External printer:	Yes

Defibrillation

Operating mode:	Manual Mode, AED Mode, , Synchronous Defibrillation
Waveform:	Biphasic truncated exponential waveform, with impedance compensation
Defibrillation pathway:	External defibrillation
Electrode type:	External defibrillation paddles, multifunctional electrode
External defibrillation electrode paddles:	Supports charging, discharging and energy selection; Charging completion indicator
Charge Time: (Battery power)	Less than 3 seconds to 200 Joules with a new, fully charged battery Less than 7 seconds to 360 Joules with a new, fully charged battery
Charge Time: (AC power)	Less than 4 seconds to 200 Joules; Less than 8 seconds to 360 Joules
Energy accuracy:	±1.5J or ±10% of setting, whichever is greater, while 50 Ω impedance ±2J or 15% of setting, whichever is greater, while 25 Ω, 75 Ω, 100 Ω, 125 Ω, 150 Ω, 175 Ω impedance
Patient Impedance Range:	20~300 Ω (External defibrillation);

Defibrillation proof:	Type CF: ECG, RESP, SpO ₂ , NIBP, PR; Type BF: EtCO ₂
-----------------------	---

Manual Mode

External defibrillators:	1J~360J, 25 types (1/2/3/4/5/6/7/8/9/10/15/20/30/50/70/100/120/150/170/200/220/250/270/300/360J)
Synchronous Cardioversion:	Energy transfer begins within 60ms of the R wave from internal Sync signal Energy transfer begins within 25ms of the External Sync signal

AED

Output Energy:	Adujustable:100-360J
Number of electric shocks	Adjustable: once, twice, 3 times
Types can be AED:	VF & VT
AED maximum time required for cardiac rhythm analysis to be ready for discharge:	Battery power supply: 18s AC power supply: 21s

Noninvasive Pacing

Waveform:	Monophasic square wave pulse
Pulse Width:	20ms or 40ms
Accuracy:	±5%
Pacing Mode:	On-demand or fixed
Pacing frequency:	30 ppm to 210 ppm
Accuracy:	±1ppm or ±1.5% (whichever is greater)
Pacing output:	0 mA to 200 mA
Accuracy:	±5% or ±5mA, whichever is greater
Speed-down pacing:	Pacing pulse frequency reduced to 25% of original value.

ECG (leads)

Lead Type:	3 leads ECG, 5 leads ECG, AUTO
Lead selection:	5-lead: I; II; III; aVR; aVL; aVF; V 3-lead: I; II; III
Multi-lead synchronization analysis:	Available
ECG wave gain:	Auto, 1.25 mm/mV (×0.125), 2.5 mm/mV (×0.25), 5 mm/mV (×0.5), 10 mm/mV (×1), 20 mm/mV (×2), 40 mm/mV (×4),
Accuracy:	Less than ±5%

Sweep speed:	6.25 mm/s, 12.5 mm/s, 25 mm/s, 50 mm/s	ST analysis review	20 groups
Accuracy:	Less than $\pm 10\%$	System noise:	Less than $25\mu\text{V}$
Heart Rate:	Adult: 15~300bpm Pediatric: 15~350bpm Accuracy: $\pm 1\text{bpm}$ or $\pm 1\%$ (whichever is greater)	Calibration voltage	1 mV; Accuracy: $\pm 5\%$
Alarm limit range	Adult: High limit: (low limit+2bpm) ~ 300bpm Low limit: 15bpm~ (high limit-2bpm) Pediatric: High limit:(low limit+2bpm) ~ 350bpm Low limit: 15bpm~(high limit-2bpm)	Arrhythmia Analysis:	26 Types
Resolution:	1 bpm	Pacemaker detection:	Detectable
Accuracy:	$\pm 1\text{bpm}$	ECG (paddle)	
Bandwidth:	Monitoring: 0.5~40Hz (-3.0dB~+0.4dB) Diagnosis: 0.05~150Hz (-3.0dB~+0.4dB) Surgery: 1~20Hz (-3.0dB~+0.4dB) ST: 0.05~40Hz(-3.0dB~+0.4dB)	Lead Type:	Single lead ECG
CMRR:	Monitoring: $> 105\text{dB}$ Diagnosis: $> 90\text{dB}$ Surgery: $> 105\text{dB}$ ST: $> 105\text{dB}$	Heart Rate measurement & alarm range:	Adult: 15~300bpm Pediatric: 15~350bpm
Input Impedance:	$\geq 5\text{M}\Omega$	Resolution:	1 bpm
Input signal range:	$\pm 8\text{mV}$	Accuracy:	$\pm 1\%$ or $\pm 1\text{bpm}$ (whichever is greater)
HR trigger threshold	200 μV	Bandwidth:	Defib: 1~20Hz (-3dB~+0.4dB)
Lead off detection current:	Measuring electrode: $< 0.1\mu\text{V}$ Driving electrode: $< 1\mu\text{V}$	CMRR:	Defib: $> 105\text{dB}$
Pacemaker pulse suppression switch:	Manual selection when the pacemaker is turned on	Input Impedance:	$\geq 5\text{M}\Omega$
Analog output:	Magnification: 1:1000; Accuracy: $\pm 5\%$ Bandwidth: 0.5Hz~40Hz Delay: $\leq 35\text{ms}$	Input signal range:	$\pm 8\text{mV}$
ST Detection:	-2.0mV~+2.0mV (-20.0mm~+20.0mm)	HR trigger value	200 μV
Resolution:	0.01mV	Arrhythmia Analysis:	5 Types, ASY, VF, VT, PNC, and PNP
Accuracy:	-0.8mV ~ +0.8mV: $\pm 0.02\text{mV}$ or $\pm 10\%$; Others: Unspecified	Respiration	
		Method:	Thoracic Impedance Method
		RR measurement range:	Adult: 0~120bpm Pediatric: 0 ~150bpm
		Accuracy:	7~150bpm: $\pm 2\text{bpm}$ or $\pm 2\%$ (whichever is greater) 0~6bpm: unspecified
		Apnea Alarm:	Adult: 10s~60s Ped: 10s~40s
		Accuracy:	$\pm 5\text{s}$
		Alarm:	Audible and visual alarm; alarm events reviewable
		COMEN NIBP	
		Method	Automatic oscillometric
		Work mode:	Manual / Automatic/Continuous
		Interval Time:	Adjustable 1/2/2.5/3/4/5/10/15/30/60/90/120/180/240/480/720 min
		Maximum measurement cycle	Continuous: 5min Adu/Ped: 120s
		Measurement Unit:	mmHg / kPa selectable
		Pressure types:	Systolic, Diastolic, Mean
		Range of systolic pressure:	Adult Mode: 5.3~36kPa (40~270mmHg) Pediatric Mode: 5.3~26.7kPa (40~200mmHg)

Range of diastolic pressure:	Adult Mode: 1.3~28.7kPa (10~215mmHg) Pediatric Mode: 1.3~20kPa (10~150mmHg)
Range of mean pressure:	Adult Mode: 2.7~31.3kPa (20~235mmHg) Pediatric Mode: 2.7~22kPa (20~165mmHg)
Over pressure protection:	Adult: 39.6kPa (297mmHg) Pediatric: 32kPa (240mmHg) Tolerance: ± 0.4 kPa (± 3 mmHg)
Accuracy:	$\pm \pm 0.667$ kPa (± 5 mmHg), if exceeds the above range, the monitor can still display normally, but the accuracy is not considered
Alarm limit:	Same as the range of measurement
PR from NIBP:	40~240bpm
Resolution:	1bpm
Accuracy:	$\pm 3\%$ or ± 3 bpm, whichever is greater

SunTech NIBP

Regulatory compliance:	YY 0670-2008
Initial inflation range:	Adult: 16~37.3kPa (120~280mmHg) Pediatric: 10.7~22.7kPa (80~170mmHg)
Maximum measurement cycle:	Adult: 130s Pediatric: 90s
Over pressure protection:	Adult/Pediatric: 40.0kPa (300mmHg)
Static pressure measurement range:	0kPa~40.0kPa (0mmHg~300mmHg)
Resolution:	± 0.4 kPa (± 3 mmHg)
Range of systolic pressure:	Adult: 5.3~34.7kPa (40~260mmHg) Pediatric: 5.3~21.3kPa (40~160mmHg)
Range of diastolic pressure:	Adult: 2.7~26.7kPa (20~200mmHg) Pediatric: 2.7~16kPa (20~120mmHg)
Range of mean pressure:	Adult: 3.5~29.3kPa (26~220mmHg) Pediatric: 3.5~17.7kPa (26~133mmHg)
PR from NIBP	30~220bpm

Accuracy: $\pm 2\%$ or ± 3 bpm, whichever is greater

Nellcor SpO₂

Measurement range:	0~100%
Resolution:	1%
Accuracy:	$\pm 2\%$ (70~100%, Adu/Ped, non-motion) 1~69% unspecified
Alarm range:	20~100%
PR Measurement	
Range:	20~300bpm
Resolution:	1bpm
Accuracy:	± 3 bpm (20~250bpm) Unspecified (251~300bpm)
Alarm range:	20~350bpm

MASIMO SpO₂

Measurement & alarm range	1~100%
Resolution:	1%
Accuracy:	$\pm 2\%$ (70~100%, Ped/Adu, non-motion) $\pm 3\%$ (70~100%, motion); 1~69% unspecified
Alarm range	1~100%
PR Measurement	
Range	25~240bpm
Resolution:	1bpm
Accuracy:	± 3 bpm (non-motion) ± 5 bpm (motion);
Alarm range:	20~350bpm
PI value:	0.02~20%
Resolution:	0.01% (0.02~9.99%) 0.1% (10~20%)
SIQ:	Available

COMEN SpO₂

Measurement & alarm range:	0~100%
Resolution:	1%
Accuracy:	$\pm 2\%$ (70~100%, Ped/Adu, non-motion) 0~69% unspecified
PR Measurement	
Range:	20~254bpm
Resolution:	1bpm
Accuracy:	± 2 bpm

Alarm range:	20~350bpm		± 5% of reading (41 – 70mmHg)
PI value:	0.05~20%		± 8% of reading (71 –100mmHg)
Resolution:	0.01% (0.05%~9.99%)		± 10% of reading (101~150mmHg)
	0.1% (10.0%~20.0%)		(In 25 °C, if RR>80rpm, accuracy is 12% of reading)
Accuracy:	unspecified		CapnoTrak:
SIQ:	Available		± 2mmHg (0~38mmHg)
			± 10% of reading (38~99mmHg)
			RR influence to EtCO ₂
			(0~99mmHg):
			-2~0.5mmHg (0-40bpm)
			(-6% of reading)~0.5mmHg
			(41-70bpm)
			(-14% of reading)~0.5mmHg
			(71~100bpm)
		Resolution:	1mmHg
		awRR range	Loflow: 2~150rpm
		awRR accuracy:	CapnoTrak: 0, 2~100rpm
			±1rpm
Response time:	<3 s		

Respironics EtCO₂ (Sidestream)

Measurement range:	Loflow: 0~150mmHg, 0~19.7%, (0~20kPa) (at 760mmHg)
	CapnoTrak: 0~99mmHg, 0~13.03%, 0~13.2kPa (at 760mmHg)
Accuracy:	Loflow: ± 2mmHg (0~40mmHg)

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