

Specification: S8

The logo features the word "COMEN" in large, bold, white, 3D-style capital letters. Above the letters, a stylized globe is formed by a collection of smaller, semi-transparent "COMEN" text elements in various sizes and orientations, creating a sense of global connectivity. The background is a solid blue color with a subtle gradient and a white curved line at the bottom, suggesting a horizon or a globe's edge.

COMEN Share with the world

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Defibrillator/ Monitor

S8



Standard Configuration:

Manual defibrillation, AED, Pacer, 5-lead ECG, RESP, Thermal Recorder

Application:

For use in the ICU, surgical rooms, emergency area or during emergency life threatening situations. For adults and pediatrics

Optional:

12-lead ECG, NIBP, TEMP, PR, EtCO₂, IBP, SPO₂

Safety Standards

ISO 13485:2016 approved, CE marking according to MDD93/42/EEC, IEC 60601-1 conformity

Physical Characteristics

Size:	323mm×277mm×338mm
Weight	7.2 kg (without battery)
Screen Size:	8.4" TFT screen
Resolution	800 × 600
Waveforms:	5 waveforms 6 waveforms for 12-lead ECG

Operation Environment

Temperature:	0~45°C
Humidity:	10%~95%, non-condensation
Water Resistance:	IP44 (without external power)
Power requirement:	100-240V~, 50/60Hz±1Hz
Battery type:	Rechargeable Lithium-ion battery
Battery capacity:	7500mAh, d.c.14.8V
Battery number:	Max 2
Battery recharging Time:	Less than 2 hours to 80% and less than 3 hours to 100% with equipment power off
Battery backup:	Monitoring Mode: 12 hours; Defib Mode: 420 times (360J charge at intervals of 1minute without recording);

Brightness:

Indicator:

Interfacing

Date storage

Brightness:	Manual from 1 to 100
Indicator:	Two alarm indicators Power indicator Battery indicator Maintain indicator Error indicator QRS beep and alarm sound Operating key sound
Interfacing:	USB interface RJ45 interface AC power input VGA interface Multi-functional connector
Date storage:	Alarm Event: 200 groups Patient profiles: 100 groups Patient Events: 1000 groups Wave Review: 48 hours NIBP Review: 2000 groups Trend Graph: 160 hours Trend Table: 160 hours ECG report: 500 cases of 12-lead ECG diagnosis report (Up to 5 case reports per patient)
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;

Network: Prioritized audible and visual alarm
Connected to Central Monitoring System by hardwire/wireless

Recorder

Type: Built-in; Thermal array
Channel: 4 channel waveforms
Real-time recording: 3s, 5s, 8s, 16s, 32s, Continual
Speed: 25mm/s, 50mm/s
Record width: 80mm
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 (adult and pediatric)
External defibrillation electrode paddles: Supports charging, discharging and energy selection; Charging completion indicator
Charge Time: (Battery power) Less than 5 seconds to 200 Joules with a new, fully charged battery
Less than 8 seconds to 360 Joules with a new, fully charged battery
Charge Time: (AC power) Less than 7 seconds to 200 Joules;
Less than 11 seconds to 360 Joules
Energy accuracy: $\pm 1.5J$ or $\pm 10\%$ of setting, whichever is greater, while $50\ \Omega$ impedance $\pm 2J$ or 15% of setting, whichever is greater, while $25\ \Omega$, $75\ \Omega$, $100\ \Omega$, $125\ \Omega$, $150\ \Omega$, $175\ \Omega$ impedance
Patient Impedance Range: $20\sim 250\ \Omega$ (External defibrillation);
Defibrillation proof: Type CF: ECG, RESP, SpO₂, NIBP, IBP, TEMP, PR;
Type BF: CO₂

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 Energy transfer begins within 60ms
Cardioversion: of the R wave
Energy transfer begins within 25ms of the External Sync signal

AED

Output Energy: Adjustable:100-360J
Number of electric shocks Adjustable: once, twice, 3 times

AED maximum time required for cardiac rhythm analysis to be ready for discharge Battery power supply: 18s

Types can be AED AC power supply: 21s

VF & VT

Noninvasive Pacing

Waveform: Monophasic square wave pulse

Pulse Width: 20 ms

Accuracy: $\pm 5\%$

Pacing Mode: On-demand or fixed

Pacing frequency: 40 ppm to 170 ppm

Accuracy: $\pm 1\text{ppm}$ or $\pm 1.5\%$ (whichever is greater)

Pacing output: 0 mA to 200 mA

Accuracy: $\pm 5\%$ or $\pm 5\text{mA}$, whichever is greater

Speed-down pacing: Pacing pulse frequency reduced to 25% of original value.

Monitoring

ECG (leads)

Lead Type: 3 leads ECG, 5 leads ECG, 12 leads ECG, AUTO

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

Multi-lead synchronization analysis: Available

ECG sensitivity: Auto, 1.25 mm/mV ($\times 0.125$), 2.5 mm/mV ($\times 0.25$), 5 mm/mV ($\times 0.5$), 10 mm/mV ($\times 1$), 20 mm/mV ($\times 2$), 40 mm/mV ($\times 4$),

Accuracy: Less than $\pm 5\%$

Sweep speed:	6.25 mm/s, 12.5 mm/s, 25 mm/s, 50 mm/s	Calibration voltage	1 mV; Accuracy: $\pm 5\%$
Accuracy:	Less than $\pm 10\%$	Arrhythmia Analysis:	26 Types
Heart Rate:	Adult: 15~300bpm Pediatric: 15~350bpm	Pacemaker detection:	Detectable
Alarm limit range	Adult: High limit: (low limit+2bpm) ~ 300bpm Low limit: 15bpm~ (high limit-2bpm) Pediatric: High limit:(low limit+2bpm) ~ 300bpm Low limit: 15bpm~(high limit-2bpm)	ECG (paddles)	
Resolution:	1 bpm	Lead Type:	Single lead ECG
Accuracy:	$\pm 1\%$ or $\pm 1\text{bpm}$ (whichever is greater)	Heart Rate measurement & alarm range:	Adult: 15~300bpm Pediatric: 15~350bpm
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)	Resolution:	1 bpm
CMRR:	Monitoring: $> 105\text{dB}$ Diagnosis: $> 90\text{dB}$ Surgery: $> 105\text{dB}$ ST: $> 105\text{dB}$	Accuracy:	$\pm 1\%$ or $\pm 1\text{bpm}$ (whichever is greater)
Input Impedance:	$\geq 5\text{M}\Omega$	Bandwidth:	Defib: 1~20Hz
Input signal range:	$\pm 8\text{mV}$	CMRR:	Defib: $> 105\text{dB}$
HR trigger threshold	200 μV	Input Impedance:	$\geq 5\text{M}\Omega$
Lead off detection current:	Measuring electrode: $< 0.1\mu\text{V}$ Driving electrode: $< 1\mu\text{V}$	Input signal range:	$\pm 8\text{mV}$
Pacemaker pulse suppression switch:	Manual selection when the pacemaker is turned on	HR trigger value	200 μV
Analog output:	Magnification: 1:1000; Accuracy: $\pm 5\%$ Bandwidth: 0.5Hz~40Hz Delay: $\leq 35\text{ms}$	Arrhythmia Analysis:	5 Types, ASY, VF, VT, PNC, and PNP
ST Detection:	-2.0mV~+2.0mV	Respiration	
Resolution:	0.01mV	Method:	Thoracic Impedance Method
Accuracy:	-0.8mV ~ +0.8mV: $\pm 0.02\text{mV}$ or $\pm 10\%$; Others: Unspecified	RR measurement range:	Adult: 0~120bpm Pediatric: 0~150bpm
ST analysis review	20 groups	Accuracy:	7~150rpm: $\pm 2\text{rpm}$ or $\pm 2\%$ (whichever is greater) 0~6rpm: unspecified
System noise:	Less than 25 μV	Apnea Alarm:	Adult: 10s~60s Ped: 10s~40s
		Accuracy:	$\pm 5\text{s}$
		Alarm:	Audible and visual alarm; alarm events reviewable
		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	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: 297mmHg Pediatric: 240mmHg Tolerance: ± 3 mmHg
Accuracy:	Maximum average deviation: \pm
Resolution:	5mmHgO(± 0.667 Kp) Maximum standard deviation: \pm 8mmHg(± 1.607 kPa)
Alarm limit:	Same as the range of measurement
PR from NIBP:	40bpm~240bpm
Resolution:	1bpm
Accuracy:	$\pm 3\%$ 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%, non-motion); 1~69% unspecified
Alarm range	1~100%
PR Measurement	25~240bpm
Range	
Resolution:	1bpm
Accuracy:	$\pm 3\%$ (non-motion) $\pm 5\%$ (motion);
Alarm range:	20~350bpm
PI value: Resolution:	0.02~20% 0.01% (0.02%~9.99%)

Accuracy:	0.1% (10.0%~20.0%)
SIQ:	unspecified
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
PI value:	0.05~20%
Resolution:	0.01% (0.05%~9.99%) 0.1% (10.0%~20.0%)
Accuracy:	unspecified
SIQ:	Available

Temperature (Dual Channel)

Measurement & alarm range:	0~50°C
TEMP sensor:	Standard configuration-skin TEMP sensor
Resolution:	0.1°C
Accuracy:	± 0.1 °C (exclusive of error of sensor) T1, T2, TD (Temperature Difference)
Channel type:	Difference)

MASIMO EtCO₂ (Sidestream)

Measurement range:	0~190mmHg, 0~25% (at 760mmHg)
Accuracy:	Standard environment 22 ± 5 °C, 1013 ± 40 kPa: 0~15%: $\pm (0.2\% + \text{reading} \times 2\%)$ 15~25%: not defined All environment: $\pm (0.3\text{kPa} + \text{reading} \times 4\%)$
Resolution:	1mmHg or 0.1%
awRR range:	0~150rpm
awRR accuracy:	± 1 rpm

Response time: <3 s

Delay time: <2s

Respironics EtCO₂ (Sidestream)

Measurement range: 0~150mmHg, 0to 25% (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)
 Resolution: 1mmHg
 awRR range 0~150rpm
 awRR accuracy: ±1rpm
 Response time: <240msec (10% to 90%)
 Delay time: <2s

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/ cmH2O 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
 PR from IBP: 20bpm~350bpm
 Resolution: 1bpm
 Accuracy: ±1% or ±1bpm, whichever is greater
 PPV/SPV Available
 measurement:
 PAWP measurement: Available

Cart

COMEN universal cart

Accessories

12Pin 5Lead Clip Connector ECG Cable/Lead replaceable Anti-Defibrillation/IEC
 MSB Electrodes for Adult(pack)
 Recorder Paper
 Defibrillation Extension Cable
 Electrode Extension Wire (For stress testing)
 Conductive Gel
 Operation guide
 User Manual
 Power Cord

Warranty

Comprehensive warranty 2 years
 Spare parts after warranty period 5 years
 Maintenance Annually

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