

Specifications: 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 solid blue gradient with a subtle globe-like shape at the bottom.

COMEN Share with the world

SHENZHEN COMEN MEDICAL INSTRUMENTS 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: info@szcomen.com

Web: www.comen.com

Defibrillator/ Monitor

S5



Standard Configuration:

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

Optional:

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

Brightness:

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: 16.6 hours
NIBP Review: 2000 groups
Trend Graph: 160 hours
Trend Table: 160 hours
Voice recording: Max 240 min in total;

| | |
|--------------------|--|
| Marked events | (Up to 60 min for each patient) 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: | Not supported |

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 | $200\mu\text{V}$ | 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 | $200\mu\text{V}$ |
| 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 Continuous: 5min Adu/Ped: 120s |
| | | Maximum measurement cycle | |
| | | 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 |



| | | |
|---|---|--|
| <p>Alarm range: 20~350bpm</p> <p>PI value: 0.05~20%</p> <p>Resolution: 0.01% (0.05%~9.99%) 0.1% (10.0%~20.0%)</p> <p>Accuracy: unspecified</p> <p>SIQ: Available</p> <p>MASIMO EtCO₂ (Sidestream)</p> <p>Measurement range: 0~190mmHg, 0~25vol% (at 760mmHg)</p> <p>Accuracy: Standard environment 22±5℃, 1013±40kPa: a) 0~114mmHg: ±(1.52mmHg+reading×2%) b) 114~190mmHg: not defined All environment: a) 0~114mmHg: ±(2.25mmHg+reading×4%) b) 114~190mmHg: not defined</p> <p>Resolution: 1mmHg or 0.1% or 0.1kPa</p> <p>awRR range: 0~150rpm</p> <p>awRR accuracy: ±1rpm</p> <p>Response time: <3 s</p> | <p>± 5% of reading (41 – 70mmHg)</p> <p>± 8% of reading (71 –100mmHg)</p> <p>± 10% of reading (101~150mmHg) (In 25℃, if RR>80rpm, accuracy is 12% of reading)</p> <p>CapnoTrak: ± 2mmHg (0~38mmHg) ± 10% of reading (38~99mmHg)</p> <p>RR influence to EtCO₂ (0~99mmHg): -2~0.5mmHg (0-40bpm) (-6% of reading)~0.5mmHg (41-70bpm) (-14% of reading)~0.5mmHg (71~100bpm)</p> <p>Resolution: 1mmHg</p> <p>Loflow: 2~150rpm</p> <p>CapnoTrak: 0, 2~100rpm</p> <p>±1rpm</p> | <p>Resolution: 1mmHg</p> <p>awRR range</p> <p>awRR accuracy: ±1rpm</p> |
|---|---|--|

Respironics EtCO₂ (Sidestream)

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

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