Specifications: C22



SHENZHEN COMEN MEDICAL INSTRUMENTS CO.,LTD

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Fetal Monitor

C22



Standard Configuration			
FHR1, TOCO, FM, Recorder	r, 3/5-lead ECG, NIBP, Resp, HR,		
Temp (Single Channel), Co	Temp (Single Channel), Comen SpO2		
Optional Configuration			
12-lead ECG, Fetal Stimula	tor, FHR2, Nellcor/ Masimo SpO2,		
Trolley			
Safety Standards			
ISO 13485:2003 approved,	CE marking according to		
MDD93/42/EEC			
Physical Characteristics			
Product Size	340mm×270mm×95mm		
Net Weight	5.5kg		
Operation Environment			
Working Temperature	5—40°C		
Humidity	≤93%		
Power Supply	100—240V~, 50/60Hz±1Hz		
Battery Type	Rechargeable & Lithium-ion battery		
Battery Capacity	4400mAh		
Battery Recharging Time	Maximum 5.5 hours for charging		
Battery backup	4 hours for continuous working		
Display	12.1" color TFT touch screen		
Resolution	800×600		
Trace	7 Waveforms (Max)		
Indicators			
	Two Alarm indicators		
	Power indicator		
	Battery indicator		
	QRS beep and alarm sound & FHR		
	Sound		
	Operating key sound		
Interface			
	Parameter cable interface		

AC power input socket Two USB ports RJ45 port Data storage Alarm Event Review 300 groups Full Disclosure Waveform Review 48 hours NIBP Review 2000 groups Trend Table 120 hours Freeze Review 240s waveform review (Maternal); 60 hours waveform review (Fetal) Power-off storage Yes Alarm User-adjustable High and Low 3-level Limits; Prioritized audible and visual alarm Network Connects to Central Monitoring System by hardwire/wireless Recorder Type Built-in; thermal array Channel 5 channel waveforms (2FHR, MHR, TOCO, FM) Mode Fast, real time Speed 1/2/3cm/min selectable, 25mm/s(review) Record width 150mm Ultrasound Technique: Ultrasound Pulse Doppler Pulse Repetition Rate: 1.32KHz Ultrasound Frequency: 1.0MHz ±1% Mechanical Index (MI) <1 Soft-tissue Thermal Index (TIS) <1		
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TOCO, FM) Mode Fast, real time Speed 1/2/3cm/min selectable,	Туре	Built-in; thermal array
Mode Fast, real time 1/2/3cm/min selectable, 25mm/s(review) Record width 150mm Ultrasound Technique: Pulse Repetition Rate: Ultrasound Frequency: 1.0MHz ±1% Mechanical Index (MI) Soft-tissue Thermal	Channel	5 channel waveforms (2FHR, MHR,
Speed 1/2/3cm/min selectable, 25mm/s(review) Record width 150mm Ultrasound Technique: Ultrasound Pulse Doppler Pulse Repetition Rate: 1.32KHz Ultrasound Frequency: 1.0MHz ±1% Mechanical Index (MI) Soft-tissue Thermal		TOCO, FM)
25mm/s(review) Record width 150mm Ultrasound Technique: Ultrasound Pulse Doppler Pulse Repetition Rate: 1.32KHz Ultrasound Frequency: 1.0MHz ±1% Mechanical Index (MI) <1 Soft-tissue Thermal	Mode	Fast, real time
Record width Ultrasound Technique: Pulse Repetition Rate: Ultrasound Pulse Doppler 1.32KHz Ultrasound Frequency: 1.0MHz ±1% Mechanical Index (MI) Soft-tissue Thermal	Speed	1/2/3cm/min selectable,
Ultrasound Technique: Ultrasound Pulse Doppler Pulse Repetition Rate: 1.32KHz Ultrasound Frequency: 1.0MHz ±1% Mechanical Index (MI) <1 Soft-tissue Thermal		25mm/s(review)
Technique: Pulse Repetition Rate: Ultrasound Pulse Doppler 1.32KHz Ultrasound Frequency: 1.0MHz ±1% Mechanical Index (MI) Soft-tissue Thermal	Record width	150mm
Pulse Repetition Rate: 1.32KHz Ultrasound Frequency: 1.0MHz ±1% Mechanical Index (MI) <1 Soft-tissue Thermal	Ultrasound	
Ultrasound Frequency: 1.0MHz ±1% Mechanical Index (MI) <1 Soft-tissue Thermal	Technique:	Ultrasound Pulse Doppler
Mechanical Index (MI) <1 Soft-tissue Thermal	Pulse Repetition Rate:	1.32KHz
Soft-tissue Thermal	Ultrasound Frequency:	1.0MHz ±1%
	Mechanical Index (MI)	<1
Index (TIS) <1	Soft-tissue Thermal	
	Index (TIS)	<1



Bone Thermal Index			Upper limit > (low level lower limit+1
(TIB)	<1		Upper limit ≥ (low level lower limit+1
•	<1		- medial alarm higher limit); Lower limit:0. error:≤±1
FHR Measurement	30bpm ~ 250bpm	Litarina proceura	Lower IIIIII:0. error.sil
Range: Resolution:		Uterine pressure measurement nonlinear	
	1bpm	-	≤±10%
Accuracy:	±1 bpm	error Baseline Drift due to	S±10%
Alarm Measurement	241 0: 240h		1it/min/oc/frag air)
Range:	31bpm ~ 249bpm	Temperature Change	1unit/min/°C (free air) 5units/min/°C(underwater)
Alarm time:	≤30s	Dialogtria Strongth	Sunits/min/ Clunderwater)
Alarm Accuracy:	±1 bpm	Dielectric Strength	4000\/
l _{ob} :	<5mW/cm²	7 00.4-	4000Vrms
P (Peak negative		Zero Mode	Auto/Manual
acoustic pressure)	<1MPa		
I _{spta} (spatial peak -		Auto Fetal Movement	
temporal average		Technique	Ultrasound Pulse Doppler
intensity)	<100mW/cm²	Range	10—80 (%)
I _{sata}	<20mW/cm²	Resolution	10%
I _{sppa.3}	<190mW/cm²	FM-Marking	
I _{spta.3}	<94mW/cm²	Marking Modes	Auto/Manual fetal movement mark
Max Output Power		Respiration	
	<30mW	Method	RA-LL Impedance Method
Effective Radiating Area		RR measurement range	Adult: 6-120bpm
	1356.5mm²±15%	Accuracy	Pediatric neonate: 6-150bpm
Dielectric Strength			7—150bpm, ±1bpm or 1%,
	4000Vrms		whichever is greater.
Maximum Transducer			0-6bpm unspecified
Temperature Rise during		Resolution	±1 bpm
Use	<5°C	RESP Apnea	Off,10s, 15s, 20s, 25s, 30s, 35s, 40s,
Expanded Uncertainty of			45s,55s,60s, error: 5s.
Temperature Test	U=0.4°C, k=2	Alarm	Audible and visual alarm; alarm
тосо			events reviewable
TOCO Range:	0-100%	Sweep Speed	6.25,12.5,25mm/s
Resolution:	1%	Gain Selection	X0.125, X0.25, X0.5, X1, X2, X4
TOCO alarm range and	High alarm:	ECG	
error	Upper limit ≥ (medial alarm higher	Lead Type	CardioTec [™] 5-lead ECG Analysis, 12-
	limit - 100);	22.2.7	lead and 3-leads selectable
	Lower limit : 0.	Lead selection	12-Lead I; II; III; aVR; aVL; aVF; V1-
	Medial alarm:		V6.
	Upper limit ≥(low level higher limit -		5-lead: I; II; III; aVR; aVL;aVF; V
	high level higher limit);		3-lead: I; II; III
	Lower limit :0.	Gain Selection	X0.125, X0.25, X0.5, X1, X2, X4, Auto
	Low alarm:	Sweep Speed	6.25,12.5, 25, 50mm/s
		Heart Rate Range	Adult: 15—300bpm
		I leart hate hange	Addit. 13—3000pm



Decalution	1 haras	N.4.5.5
Resolution	1 bpm	Measureme
Protection	Withstand 4000VAC/50Hz voltage in	Resolution
	isolation; Against electrosurgical interference	Resolution
	and defibrillation;	Accuracy
Accuracy	±1% or ±1bpm (whichever is greater)	
Bandwidth	MON Mode: 0.5 Hz—40 Hz	
Danawiatii	OPE Mode:1 Hz—20 Hz	
NIBP	OFE Wode.1112 20112	PR Measure
Method	Automatic Oscillometric	PR Resolution
Working modes	Manual/Automatic/Continuous	PR Accuracy
Measurement time	Adjustable (1—720min)	
	Adjustable (1—720mm)	PR Alarm Ra
Maximum measurement time	Adult: 120s	PI Value
	mmHg / kPa selectable	PI Resolutio
Measurement Unit	<u> </u>	Accuracy
Measurement types	Systolic, Diastolic, Mean	
Range of systolic pressure	Adult Mode: 40—270mmHg	Comen Spo
Range of diastolic	Addit Wode. 40—270IIIIIIIg	
_	Adult Mode: 10—215mmHg	Measureme
Range of mean pressure	Adult Mode: 20—235mmHg	& alarm ran
<u> </u>	Both hardware and software	Resolution
Over-pressure protection	over pressure protection	Accuracy
·	±3mmHg	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Accuracy Resolution	1mmHg	Accuracy
Alarm	Systolic, Diastolic, Mean	PR Measure
	Systolic, Diastolic, Ivieali	
Nellcor SpO ₂	0–100%	PR Resolution
Measurement range	1%	PR Accuracy
Resolution		PR Alarm Ra
Accuracy	±2% (70—100%, Adu/Ped, non- motion)	Temperatu
Accuracy	±3% (70—100%, Neo, non-motion)	Measureme
Accuracy Alarm range	·	range
AlaitiiTalige	1—69% unspecified	Sensor
	20—100%	Resolution
PR Measurement Range	20—300bpm	Accuracy
Resolution	1bpm	riccaracy
Accuracy	±3bpm (20—250bpm);	*Notice: Sp
AL D	Unspecified (251—300bpm)	All rights re
Alarm Range	20—300bpm	7
Masimo SpO ₂		

Measurement & alarm		
range	1–100%	
Resolution	1%	
Accuracy	±2% (70—100%, Adu/Ped, non-	
	motion)	
	±3% (70—100%, Neo, non-motion)	
	1—69% unspecified	
PR Measurement Range	25—240bpm	
PR Resolution	1bpm	
PR Accuracy	±3bpm(non-motion)	
	±5bpm(motion)	
PR Alarm Range	20—300bpm	
PI Value	0.02~20%	
PI Resolution and	0.01% (0.02%—9.99%)	
Accuracy	0.1% (10.0%—20.0%)	
	Unspecified	
Comen SpO ₂		
Measurement		
& alarm range	0–100%	
Resolution	1%	
Accuracy	±2% (70—100%, Adu/Ped, non-	
	motion)	
Accuracy	±3% (70—100%, Neo, non-motion)	
PR Measurement Range	Unspecified (0—69%)	
	20—254bpm	
PR Resolution	1bpm	
PR Accuracy	±1bpm	
PR Alarm Range	20—300bpm	
Temperature		
Measurement & alarm		
range	0–50°C	
Sensor	Skin/rectal TEMP sensor	
Resolution	0.1°C	
Accuracy	±0.1°C (excluding sensor-based	
	error)	
*Notice: Specifications subject to change without prior notice.		
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