

CX10

Patient Monitor

Version 1.1



Main Unit Specification

Physical Specifications

Dimension	268.5 mm (W) × 209.7 mm (H) × 170.5 mm (D)
Weight	3.5 kg (Standard configuration with battery, excluding recorder and accessories.)

Power Supply

AC Voltage	100 V to 240 V
Input Current	0.6 A to 0.3 A
Frequency	50 Hz/60 Hz
Over Current Fuse Protection	Support

Battery

Battery Type	Rechargeable lithium-ion battery
Operating Time	One battery (2550 mAh) ≥ 4 h
	One battery (5100 mAh) ≥ 8 h
Charge Time	One battery (2550 mAh) ≤ 3.5 h (monitor is off)
	One battery (2550 mAh) ≤ 5.5 h (monitor is on or standby)
	One battery (5100 mAh) ≤ 6.5 h (monitor is off) ≤ 11 h (monitor is on or standby)

Display

Display screen	10.1-inch color TFT, touch screen optional
Resolution	1024 × 600
Messages	A maximum of 8 waveforms

Recorder

Record Width	48 mm
Record Paper Width	50 mm
Paper Speed	12.5 mm/s, 25 mm/s, 50 mm/s
Number of waveform channels	A maximum of 3

Data Storage

Trend data	48 hours @ 1 s
	240 hours @ 1 min
NIBP Measurement	At least 1600 sets
Alarm Events	Up to 1800 sets
Full Disclosure Waveform	48 hours @ 1 s

Wi-Fi

IEEE	802.11a/b/g/n
Frequency Band	2.4 G/5 G

Interfaces and Others

Analog Output	1
Defibrillator Synchronization	1
Nurse Call	1
USB Interfaces	2
Ethernet interface (RJ-45)	1

ECG

Lead Mode	3 Electrodes: I, II, III
	5 Electrodes: I, II, III, aVR, aVL, aVF, V
	6 Electrodes: I, II, III, aVR, aVL, aVF, and leads corresponding to Va Vb
	10 Electrodes: I, II, III, aVR, aVL, aVF, V1-V6
Lead naming style	AHA, IEC
Display Sensitivity	×0.125, ×0.25, ×0.5, ×1, ×2, ×4, AUTO gain
Sweep	6.25 mm/s, 12.5 mm/s, 25 mm/s, 50 mm/s
Bandwidth (-3 dB)	Diagnosis: 0.05 Hz to 150 Hz
	ST: 0.05 Hz to 40 Hz
	Monitor and Monitor (Hi-Fi): 0.5 Hz to 40 Hz
	Surgery: 1 Hz to 20 Hz
	Enhanced: 2 Hz ~18 Hz
CMRR	Customized: High-pass Filter and Low-pass Filter (See Changing the ECG Filter Settings)
	Diagnosis: > 95 dB
	ST: > 105 dB
	Monitor and Monitor (Hi-Fi): > 105 dB
	Surgery: > 105 dB
Hum Filter	Enhanced: > 105 dB
	Customized: > 105 dB (Low-pass Filter < 40 Hz)
	> 95 dB (Low-pass Filter > 40 Hz)
Recovery Time After Defibrillation	In diagnosis, ST, monitor, surgery, enhanced and customized modes: 50 Hz/60 Hz (Hum Filter can be turned on or off manually)
	< 5 s (measured without electrodes as IEC60601-2-27:2011, Sect. 201.8.5.5.1 requires.)
ESU Protection	< 5 s
	Cut mode: 300 W
	Coagulation mode: 100 W
Pace pulse detection	Restore time: ≤10 s
	one among I, II, III, aVR, aVL, aVF, V1-V6

Heart Rate

Range	ADU: 15 bpm to 300 bpm
	PED/NEO: 15 bpm to 350 bpm
Accuracy	±1% or ±1 bpm, whichever is greater
Resolution	1 bpm (For display and alarm limit)

PVCs	
Range	ADU: 0 to 300 PVCs/ min PED/NEO: 0 to 350 PVCs/ min
Resolution	1 PVCs/min (For display and alarm limit)

Pause/min	
Range	ADU/PED/NEO: (0 to 30) pauses/min
Resolution	1 pause/min (For display and alarm limit)

ST value	
Range	-2.0 mV to +2.0 mV
Accuracy	-0.8 mV to +0.8 mV: ± 0.02 mV or 10%, whichever is greater. Beyond this range: not specified.
Resolution	0.01 mV (For display and alarm limit)

QT measurement	
Range	200 ms ~ 800 ms
Resolution	4 ms (For display)
Accuracy	± 30 ms

QTc measurement	
Range	200 ms ~ 800 ms
Resolution	1 ms (For display and alarm limit)

Δ QTc measurement	
Range	-600 ms ~ 600 ms
Resolution	1 ms (For display and alarm limit)

Arrhythmia analysis	
Asystole, V-Fib/V-Tach, Couplet, Vent Rhythm, PVC Bigeminy, PVC Trigeminy, Tachy, R on T, PVC, Irr Rhythm, Brady, Missed Beat, Pacer not Pacing, Vent Brady, Pacer not Capture, VEB, Run PVCs, Acc. Vent Rhythm, IPVC, Non-Sustain VT, Non-Sustain VT, Pauses/min High, Pause, Afib, PAC Bigeminy, PVCs High, Low Voltage(Limb), ExtremeBrady, PAC Trigeminy, Wide QRS Tachy, Sustain VT, ExtremeTachy, V-Tach	

RESP	
Method	Impedance between RA-LL, RA-LA
Measurement lead	Options are lead I and II. The default is lead II.
Measuring range	0 rpm to 200 rpm
Resolution	1 rpm (For display and alarm limit)
Accuracy	0 rpm to 120 rpm: ± 1 rpm 121 rpm to 200 rpm: ± 2 rpm
Gain Selection	$\times 0.25$, $\times 0.5$, $\times 1$, $\times 2$, $\times 3$, $\times 4$, $\times 5$
Sweep	6.25 mm/s, 12.5 mm/s, 25.0 mm/s, 50.0 mm/s
No Breath Detected Alarm Time Setup	10 s, 15 s, 20 s (Default), 25 s, 30 s, 35 s, 40 s

EDAN Module NIBP	
Method	Oscillometry
Mode	Manual, Auto, Continuous, Sequence
Measuring Interval in Auto Mode	1/2/2.5/3/4/5/10/15/30/60/90/120/180/240/360/480 min and User Define
Continuous	5 min, interval is 5 s
Measuring Type	SYS, DIA, MAP, PR
Measuring Range	
Adult Mode	SYS: 25 mmHg to 290 mmHg DIA: 10 mmHg to 250 mmHg MAP: 15 mmHg to 260 mmHg
Pediatric Mode	SYS: 25 mmHg to 240 mmHg

Neonatal Mode	DIA: 10 mmHg to 200 mmHg MAP: 15 mmHg to 215 mmHg SYS: 25 mmHg to 140 mmHg DIA: 10 mmHg to 115 mmHg MAP: 15 mmHg to 125 mmHg 0 mmHg to 300 mmHg
Cuff Pressure Measuring Range	
Pressure Resolution	1 mmHg (For display and alarm limit)
Maximum Mean Error	± 5 mmHg
Maximum Standard Deviation	8 mmHg
Maximum Measuring Period	Adult/ Pediatric: 120 s Neonatal: 90 s
Typical Measuring Period	iCUPS measurement: 20 s to 35 s iFAST measurement: 15 s
Dual Independent Channel Overpressure Protection	Adult: (297 $\pm$ 3) mmHg Pediatric: (245 $\pm$ 3) mmHg Neonatal: (147 $\pm$ 3) mmHg

EDAN Module SpO ₂	
Measuring Range	0% to 100%
Resolution	1%
Data update period	1 s
Accuracy	Adult/Pediatric: $\pm 2\%$ (70% to 100% SpO ₂) Undefined (0% to 69% SpO ₂) Neonatal: $\pm 3\%$ (70% to 100% SpO ₂) Undefined (0% to 69% SpO ₂)

PI (Perfusion Index)	
Measuring Range	0.05% to 20%, invalid PI value is -?-.
Resolution	0.01% (0.05%-9.99%) 0.1% (10.0%-20.0%)

PR	
PR (SpO ₂)	
Measuring range	20 bpm to 300 bpm
Accuracy	± 2 bpm
Resolution	1 bpm (For display and alarm limit)
PR (NIBP)	
Measuring range	40 bpm to 240 bpm
Accuracy	± 3 bpm or 3.5%, whichever is greater
Resolution	1 bpm (For display)

TEMP	
Channel	1-channel or 2-channel
Sensor Type	YSI-10K and YSI-2.252K
Technique	Thermal resistance
Measure Parameter	T1, T2, TD (the absolute value of T2 minus T1)
Position	Skin, cavity
Unit	$^{\circ}\text{C}$, $^{\circ}\text{F}$
Measuring Range	0 $^{\circ}\text{C}$ to 50 $^{\circ}\text{C}$ (32 $^{\circ}\text{F}$ to 122 $^{\circ}\text{F}$)
Resolution (For display and alarm limit)	0.1 $^{\circ}\text{C}$ (0.1 $^{\circ}\text{F}$)
Accuracy	(1) Sensor accuracy: 25 $^{\circ}\text{C}$ ~45 $^{\circ}\text{C}$: ± 0.1 ; Others: $\pm 0.2^{\circ}\text{C}$ (2) Without sensor accuracy: $\pm 0.1^{\circ}\text{C}$
Transient Response Time	≤ 30 s

Safety Specifications

Compliant with Standards	IEC 60601-1; IEC 60601-1-2; EN 60601-1; EN 60601-1-2; IEC 80601-2-49
Anti-electroshock Type	Class I equipment and internal powered equipment
Anti-electroshock Degree	CF
Ingress Protection	IPX1

Environmental Specifications

Temperature	Working: +0°C to +40°C (32°F ~ 104°F) Transport and storage: -20°C to +60°C (-4°F ~ 140°F)
Relative Humidity	Working: 15%RH to 95%RH (non-condensing) Transport and storage: 10%RH to 95%RH (non-condensing)
Barometric Pressure	Working: 57 kPa to 107.4 kPa Transport and storage: 16 kPa to 107.4 kPa