



Patient Monitoring Solutions



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PAVO Vital Sign Monitor

Features

- 8" color TFT LCD Screen (touch screen optional)
- Portable, lightweight and sturdy design
- Flexible parameters configuration for different clinical environments
- Rechargeable Li-ion Battery (up to 12 hours uninterrupted work)
- Big font and font color display setting
- Spot-check and continuous monitoring mode
- Selectable for Adult, Pediatric and Neonatal patients
- Wired/Wireless CMS, support HL7 protocol to HIS
- Barcode scanner support
- Thermal recorder support
- Graphical & tabular trend review
- 48 hours holographic wave review for each patient (stored in SD card)



For Out-Patient Department, Spot-check, Transport, Ward and other Basic Monitoring.

Configuration

Optional

| | |
|------------------------------------|---|
| SpO2 + NIBP, Li-ion battery | Masimo/Nellcor SpO2, Quick Temp, Barcode scanner |
| SpO2+NIBP+ECG+TEMP, Li-ion battery | Masimo/Nellcor SpO2, EtCO2, Quick Temp, Barcode scanner, Thermal Recorder |

Technical Specifications

Display

8" color TFT LCD Screen, resolution: 800 x 600

ECG

Lead type

3-lead: I, II, III

5-lead: I, II, III, aVR, aVL, aVF, V

Display sensitivity:

2.5 mm/mV (×0.25), 5 mm/mV (×0.5),

10 mm/mV (×1.0), 20 mm/mV (×2.0)

Wave sweep speed: 6.25 mm/s, 12.5 mm/s,

25 mm/s, 50 mm/s

Bandwidth

Diagnostic mode: 0.05Hz~100Hz

Monitor mode: 0.5Hz~40Hz

Surgery mode: 1Hz~20Hz

Strong filter mode: 5Hz~20Hz CMRR

>100dB

Notch: 50/60 Hz notch filter can be set to on or off

Differential input impedance >5 MΩ

Electrode polarization voltage range: ±400 mV

Baseline recovery time <3 s after defibrillation (in monitor and surgery mode)

Calibration signal: 1 mV (peak - peak), accuracy ±3%

RESP

Measurement method: Thoracic electrical bioimpedance

Measuring lead: Lead I, II

Wavegain: ×0.25, ×0.5, ×1, ×2

Respiratory impedance range: 0.5-5 Ω

Baseline impedance: 500-4000 Ω

Gain: 10 grades

Scan speed: 6.25 mm/s, 12.5 mm/s, 25 mm/s

TEMP

Measurement method: Thermistor

Measuring range: 5~50 °C (41~122 °F)

Resolution: 0.1 °C

Measurement accuracy: ±0.1 °C

Recorder (optional)

Built-in, Thermal dot array

Horizontal resolution: 16 dots/mm (25 mm/s paper speed)

Vertical resolution: 8 dots/mm

Paper speed: 25 mm/s, 50 mm/s

Number of waveform channels: 3

PAVO Vital Sign Monitor

Technical Specifications

NIBP

Measurement method: Automatic oscillometric method

Operating mode: Manual, automatic, continuous

Measurement unit: mmHg/kPa selectable

Typical measurement time: 20~40 s

Measurement type: Systolic, Diastolic, Mean

Measurement range (mmHg)

| | | |
|-----------------------------|-----------|--------|
| Range of Systolic pressure: | Adult | 40-270 |
| | Pediatric | 40-230 |
| | Neonatal | 40-135 |

| | | |
|------------------------------|-----------|--------|
| Range of Diastolic pressure: | Adult | 10-210 |
| | Pediatric | 10-150 |
| | Neonatal | 10-100 |

| | | |
|-------------------------|-----------|--------|
| Range of Mean pressure: | Adult | 20-230 |
| | Pediatric | 20-165 |
| | Neonatal | 20-110 |

Measurement accuracy

Maximum average error: ± 5 mmHg

Maximum standard deviation: 8 mmHg

Resolution: 1 mmHg

Interval: 1, 2, 3, 4, 5, 10, 15, 30, 60, 90, 120, 180, 240, 480 minutes

Overpressure protection: Software and hardware, double safety protection

Cuff pressure range: 0-280 mmHg

Standard SpO2

Measurement range: 0-100%

Resolution: 1%

Accuracy: $\pm 2\%$ (70-100%, Adult/Pediatric);
 $\pm 3\%$ (70-100%, Neonate);
 0-69%, unspecified

Refreshing Rate: 1s

Masimo SpO2 (optional)

Measurement range: 0-100%

Resolution: 1%

Accuracy: $\pm 2\%$ (70-100%, Adult/Pediatric),
 non-motion, low
 $\pm 3\%$ (70-100%, Neonate, non-motion);
 $\pm 3\%$ (70-100%, motion);
 0-69%, unspecified

Refreshing Rate: 1s



Infrared Ear Thermometer (optional)

Displayed range: 34~42.2 °C (93.2~108 F°)

Operation ambient temperature range: 10~40 °C (50~104 °F)

Accuracy for displayed temperature range:
 ≥ 35 °C (95.9 °F) ~ ≤ 42.2 °C (107.6 °F) range
 ± 0.2 °C (0.4 °F)
 < 35 °C (95.9 °F) ~ ≥ 34 °C (93.2 °F) range
 ± 0.3 °C (0.5 °F)



Phasein IRMA™ Sidestream CO2 (optional)

Warm-up time: Full accuracy within 10 seconds

Sampling flow rate: 50 ml/min (+/-10/min)

Accuracy: $\pm (0.2\% + 2\%$ of the reading)

Measurement Range: 0-15%

Rise time: 200 ms, typical at 50 ml/min flow rate

Total response time: within 3 seconds (with 2m Momoline sampling line)

AWRR Range: 0-150 bpm

AWRR Accuracy: ± 1 breath

Phasein IRMA™ Mainstream CO2 (optional)

Measurement Range: 0-15%

Warm-up time: Full accuracy within 10 seconds

Accuracy: $\pm (0.2\% + 2\%$ of the reading)

AWRR Range: 0-150 bpm

AWRR Accuracy: ± 1 breath

Operation Environment

Power: AC 100-250 V, 50/60 Hz

Temperature: 0-40 °C

Humidity: 15-85%

Patient Range: Adult, Pediatric, Neonate



Portable Design

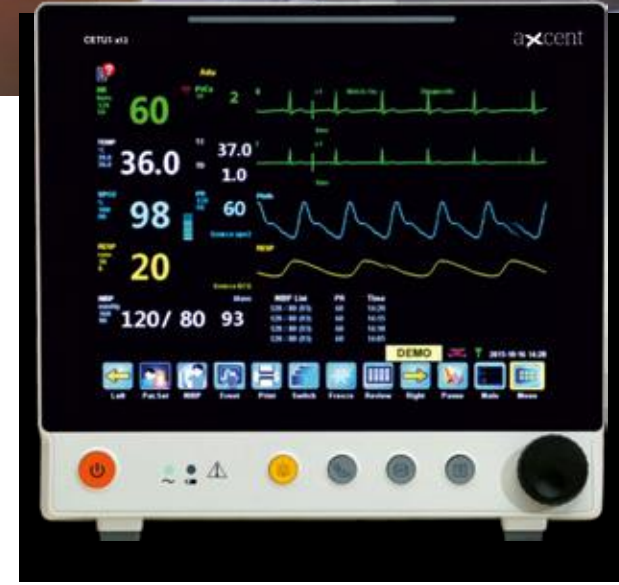


Touch Screen (Optional)



Quick Temp (Infrared Ear Thermometer)





CETUS x12 Patient Monitor

Features

- 12.1" color TFT LCD screen
- 8 waveform display, up to 12-lead ECG analysis
- Powerful calculation (Hemodynamic, Drug Dose, Oxygenation, Ventilation)
- Pacemaker detection
- ST & arrhythmia analysis
- OxyCRGs screen
- Wired/Wireless CMS, support HL7 protocol to HIS
- SpO2 pulse-tone modulation (Pitch Tone)
- MEWS (Modified Early Warning Score)
- Graphical & tabular trend review (120 hours)
- Rechargeable Lithium-Ion Battery (2600 mAh)

12.1" color TFT LCD screen, wide and flat screen design, economic and reliable

Configuration: ECG+SpO2+NIBP+2TEMP+PR+RESP, Li-ion battery
 Optional: Touch-Screen, 12-lead ECG, Masimo/Nellcor SpO2, IBP, C.O., EtCO2, Multi-Gas, BIS, NMT, VGA, Thermal Recorder, Wired/Wireless CMS, reusable cuff
 Electro-surgical interference protection, Defibrillator protection, Freeze and cascade facility

Technical Specifications

Display

12.1" TFT non fade (touch screen optional)
 Resolution: 800 x 600
 Number of traces: 8 waveforms

ECG

Lead type: 3-lead, 5-lead, 12-lead
 Heart Rate (Numeric Format)
 ECG waveform: 2 channels, 7 channels, 12 channels
 Display sensitivity: 2.5 mm/mV (×0.25), 5 mm/mV (×0.5), 10 mm/mV (×1.0), 20 mm/mV (×2.0)
 Wave sweep speed: 6.25 mm/s, 12.5 mm/s, 25 mm/s, 50 mm/s
 Bandwidth

Diagnostic mode: 0.05 Hz~100 Hz
 Monitor mode: 0.5 Hz~40 Hz
 Surgery mode: 1Hz~20Hz
 Strong filter mode: 5 Hz~20 Hz

CMRR>100 dB
 Notch: 50/60 Hz notch filter can be set to on or off
 Differential input impedance >5MΩ
 Electrode polarization voltage range: ±400 mV
 Baseline recovery time <3s after defibrillation (in monitor and surgery mode)
 Calibration signal: 1mV (peak - peak), accuracy ±3%

Real time and freeze tracing

I/O

LAN: 1 standard RJ45 port
 WLAN: IEEE 802.11b/g/n

RESP

Measurement method: Thoracic electrical bioimpedance
 Measuring lead: Lead I, II
 Wavegain: ×0.25, ×0.5, ×1, ×2
 Respiratory impedance range: 0.5-5Ω
 Baseline impedance: 500-4000Ω
 Gain: 10 grades
 Scan speed: 6.25 mm/s, 12.5 mm/s, 25 mm/s
 Breath Rate Display and Apnea Alarm

Pulse Rate

Range: 30~254 bpm
 Resolution: 1bpm
 Accuracy: ±2bpm (non-motion)
 ±5bpm (motion)
 Refreshing rate: 1s

TEMP

Accuracy: ±0.1 °C or ±0.2 °C °F (without probe)
 Measurement range: 5~50 °C (41~122 °F)
 Channel: Two channels
 Resolution: 0.1 °C
 Parameters: T1, T2 and TD

Pulse Oximetry

Oxygen saturation: Numeric 0-100% measuring range
 Waveform-Plethysmograph pulse.
 Reusable sensor electrode.

Alarms

Visual and Audio, High / Low (Settable)

CETUS x12 Patient Monitor

Technical Specifications

NIBP

Measurement method: Automatic oscillometric method

Operating mode: Manual, automatic, continuous

Measurement unit: mmHg/kPa selectable

Typical measurement time: 20~40 s

Measurement type: Systolic, Diastolic, Mean

Measurement range (mmHg)

| | | |
|-----------------------------|-----------|--------|
| Range of Systolic pressure: | Adult | 40-270 |
| | Pediatric | 40-200 |
| | Neonatal | 40-135 |

| | | |
|------------------------------|-----------|--------|
| Range of Diastolic pressure: | Adult | 10-210 |
| | Pediatric | 10-150 |
| | Neonatal | 10-95 |

| | | |
|-------------------------|-----------|--------|
| Range of Mean pressure: | Adult | 20-230 |
| | Pediatric | 20-165 |
| | Neonatal | 20-105 |

Measurement accuracy

Maximum average error: ± 5 mmHg

Maximum standard deviation: 8 mmHg

Resolution: 1 mmHg

Interval: 1, 3, 4, 5, 10, 15, 30, 60, 90, 120, 180, 240, 480 minutes



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Overpressure protection: Software and hardware, double safety protection

Cuff pressure range: 0-280 mmHg

SpO2

Measurement range: 0-100%

Resolution: 1%

Accuracy: $\pm 2\%$ (70-100%, Adult/Pediatric);
 $\pm 3\%$ (70-100%, Neonate);
 0-69%, unspecified

Refreshing Rate: 1s

Masimo SET® SpO2 (Optional)

Measurement range: 0-100%

Resolution: 1%

Accuracy: $\pm 2\%$ (70-100%, Adult/Pediatric, non-motion, low perfusion);
 $\pm 3\%$ (70-100%, Neonate, non-motion);
 $\pm 3\%$ (70-100%, motion);
 0-69%, unspecified

Refreshing Rate: 1s

Recorder (Optional)

Built-in, Thermal dot array

Horizontal resolution: 16 dots/mm (25 mm/s paper speed)

Vertical resolution: 8 dots/mm

Paper speed: 25 mm/s, 50 mm/s

Number of waveform channels: 3

Operation Environment

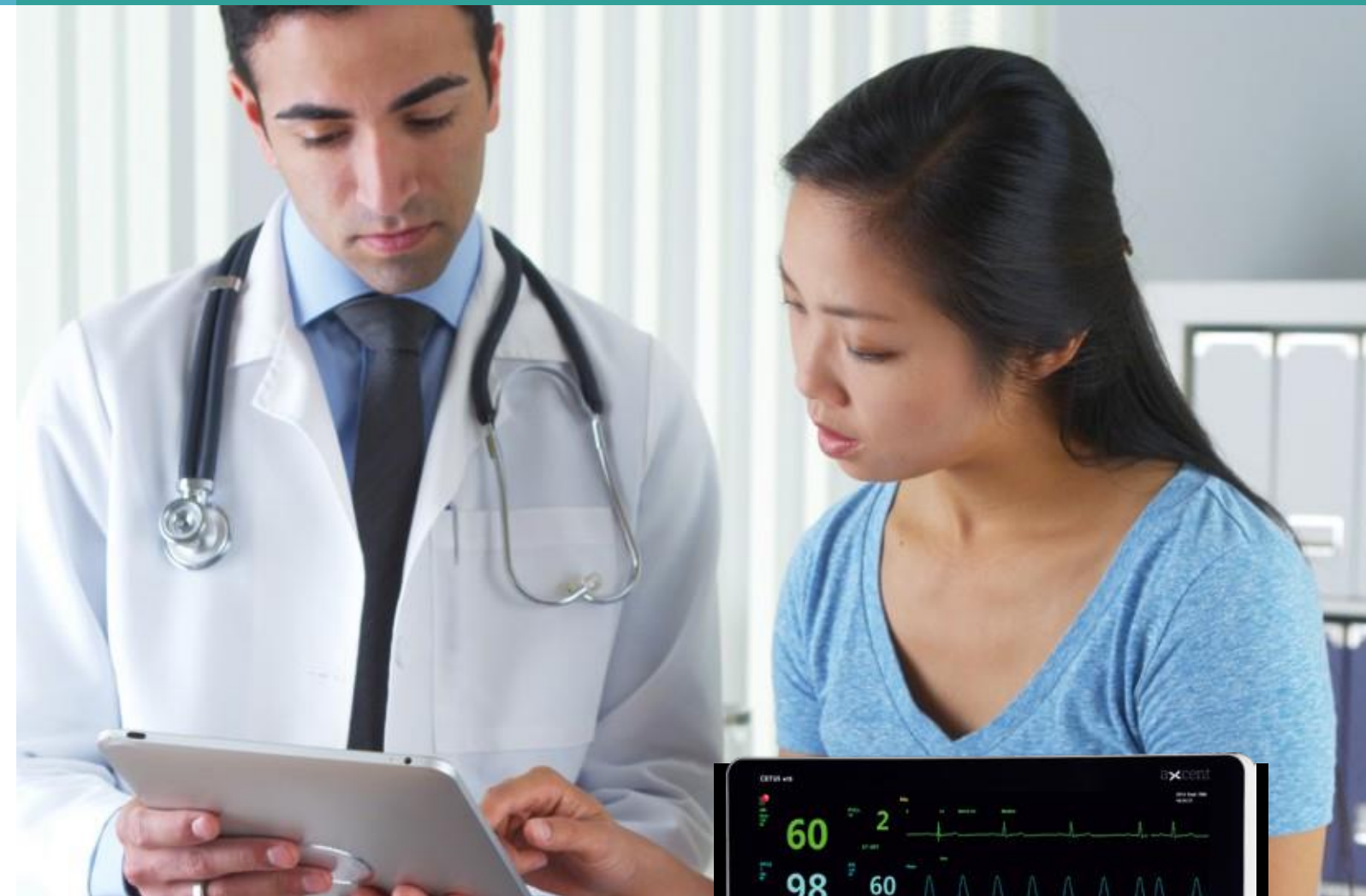
Power: AC 100-250V, 50/60Hz

AC power failure at full parameter

Temperature: 5-40 °C

Humidity: <80%

Patient Range: Adult, Pediatric, Neonate



CETUS x15

Critical Care Patient Monitor

Features

- 15.6" High resolution TFT LCD Touch screen
- 10 waveform display, up to 12-lead ECG analysis
- Powerful calculation (Hemodynamic, Drug Dose, Oxygenation, Ventilation)
- Pacemaker detection
- ST & arrhythmia analysis
- SpO2 support PVI and PI, low perfusion 0.2%
- Aspect BISx module, NMT (Organon TOF-Watch®) module optional
- Wired/Wireless CMS, support HL7 protocol to HIS
- SpO2 pulse-tone modulation (Pitch Tone)
- VGA support external display
- Graphical & tabular trend review (120 hours)
- 48 hours full disclosure wave review for each patient (stored in SD card)



CETUS x15 Critical Care Patient Monitor

Multiple parameter options satisfy the need for ICU, CCU, NICU.

Confi 5-lead ECG, SpO2, NIBP, TEMP, Resp, PR; Li-ion battery

Optional: Touch-Screen, 12-lead ECG, Masimo/Nellcor SpO2, IBP, C.O., EtCO2, Multi-Gas, BIS, NMT, VGA, Thermal Recorder, Wired/Wireless CMS



Masimo SET® SpO2
Provides anti-motion and anti-low perfusion SpO2 measurement.



Bispectral Index™ by Aspect
Monitor the level of consciousness of the patient under general anesthesia or sedation. provides BIS, SQI, EMG, SR, SEF, TP, PC value and EEG wave.



Masimo Phase II IRMA™/ISA
Sidestream/Mainstream EtCO2
Allows selection of the modality best suited to the application, monitoring with infrared absorption technique.



NMT
Intergrade Organon TOF-Watch® SX



IBP
2-4 Channel, support IBP waveform overlapping display



C.O.
Cardiac Output

Technical Specifications

Display

15.6" TFT (touch screen optional)
Resolution: 1366 x 768
Number of traces: 12 waveforms

I/O

LAN: 1 standard RJ45 port
WLAN: IEEE 802.11b/g/n
USB: 2 USB connectors
SD: 1 SD card socket
VGA: 1 VGA monitor connector
Output: 1 connector for Nurse call, Defib Sync Analog Output

ECG

Lead type: 3-lead, 5-lead, 12-lead
ECG waveform: 2 channels, 7 channels, 12 channels
Display sensitivity: 2.5 mm/mV (×0.25), 5 mm/mV (×0.5), 10 mm/mV (×1.0), 20 mm/mV (×2.0)
Wave sweep speed: 6.25 mm/s, 12.5 mm/s, 25 mm/s, 50 mm/s
Bandwidth
Diagnostic mode: 0.05 Hz~100 Hz
Monitor mode: 0.5 Hz~40 Hz
Surgery mode: 1 Hz~20 Hz
Strong filter mode: 5Hz~20 Hz
CMRR>100 dB

Technical Specifications

Notch: 50/60 Hz notch filter can be set to on or off

Differential input impedance >5MΩ

Electrode polarization voltage range: ±400mV

Baseline recovery time <3s after defibrillation (in monitor and surgery mode)

Calibration signal: 1 mV (peak - peak), accuracy ±3%

RESP

Measurement method: Thoracic electrical bioimpedance

Measuring lead: Lead I, II

Wave gain: ×0.25, ×0.5, ×1, ×2

Respiratory impedance range: 0.5-5 Ω

Baseline impedance: 500-4000 Ω

Gain: 10 grades

Scan speed: 6.25 mm/s, 12.5 mm/s, 25 mm/s

TEMP

Accuracy: ±0.1 or ±0.2 °F (without probe)

Measurement range: 5~50 (41~122 °F)

Channel: Two channels

Resolution: 0.1

Parameters: T1, T2 and TD

SpO2

Measurement range: 0-100%

Resolution: 1%

Accuracy: ±2% (70-100%, Adult/Pediatric); ±3% (70-100%, Neonate); 0-69%, unspecified

Refreshing Rate: 1s

Masimo SET® SpO2(Optional)

Measurement range: 0-100%

Resolution: 1%

Accuracy: ±2% (70-100%, Adult/Pediatric, non-motion, low perfusion); ±3% (70-100%, Neonate, non-motion); ±3% (70-100%, motion); 0-69%, unspecified

Refreshing Rate: 1s

Pulse Rate

Range: 30~300 bpm

Resolution: 1 bpm

Accuracy: ±2bpm (non-motion) ±5bpm (motion)

Refreshing rate: 1s

NIBP

Measurement method: Automatic oscillometric method

Operating mode: Manual, automatic, continuous

Measurement unit: mmHg/kPa selectable

Typical measurement time: 20~40 s

Measurement type: Systolic, Diastolic, Mean Measurement range (mmHg)

Range of Systolic pressure: Adult 40-270

Pediatric 40-200

Neonatal 40-135

Range of Diastolic pressure: Adult 10-210

Pediatric 10-150

Neonatal 10-95

CETUS x15 Critical Care Patient Monitor

Technical Specifications

Range of Mean pressure: Adult 20-230
 Pediatric 20-165
 Neonatal 20-105

Measurement accuracy

Maximum average error: ± 5 mmHg

Maximum standard deviation: 8 mmHg

Resolution: 1 mmHg

Interval: 1, 2, 3, 4, 5, 10, 15, 30, 60, 90, 120, 180, 240, 480 minutes

Overpressure protection: Software and hardware, double safety protection

Cuff pressure range: 0-280 mmHg

IBP (Optional)

Channel: 2-channel or 4-channel

ART: 0 to 300 mmHg

PA: -6 to 120 mmHg

CVP/RAP/LAP/ICP: -10 to 40 mmHg

Measurement range: P1/P2 -50 to 300 mmHg

Resolution: 1mmHg

Accuracy: $\pm 2\%$ or ± 1 mmHg,

whichever is greater (without sensor)

Sensitivity: 5uV/mmHg/V

Impedance range: 300 to 3000 Ω

C.O. (Optional)

Method: Thermodilution

Range: C.O.: 0.2 to 20 L/min

TB: 23 to 45

T1: -1 to 27

Accuracy: C.O.: $\pm 5\%$ or ± 0.1 L/min, whichever is greater

TB, T1 ± 0.5 (without sensor)

Standard Mainstream CO2 (Optional)

Measurement range: 0-19.7%, 150 mmHg, or 0-20 kPa

Resolution: 0.1 mmHg

Measurement accuracy

0-40 mmHg: ± 2 mmHg

41-70 mmHg: $\pm 5\%$ of reading

71-100 mmHg: $\pm 8\%$ of reading

101-150 mmHg: $\pm 10\%$ of reading

Respiration rate: 3-150 bpm

Respiration rate accuracy: 1 ± 1 bpm

Warm-up time: 97% within 8 s,

full accuracy within 20 s

Standard Sidestream CO2 (Optional)

Measurement range: 0-20% (0-150 mmHg)

Accuracy: $< 5.0\%$ CO₂: ± 2 mmHg

$> 5.0\%$ CO₂: $< 6\%$ of reading

Respiration rate: 2~150 BPM

Respiration rate accuracy: $1\% \pm 1$ BPM

Warm-up time: 97% within 45 s, full accuracy within 10 min.

Rise times (t 10-90%): About 100 ms, when flow is 100 ml/min, adult water trap, 1.5 m sampling tube

Delay time: < 3 sec when flow is 100 ml/min, adult water trap, 1.5 m sampling tube

Recorder (Optional)

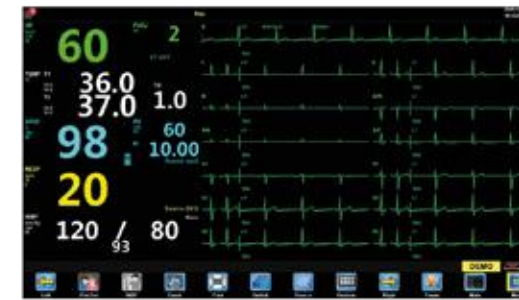
Built-in, Thermal dot array

Horizontal resolution: 16 dots/mm (25 mm/s paper speed)

Vertical resolution: 8 dots/mm

Paper speed: 25 mm/s, 50 mm/s

Number of waveform channels: 3



12-lead ECG



4 channel IBP



OxyCRG screen



Dynamic trends

Phasein ISA Sidestream CO2 (Optional)

Warm-up time: Full accuracy within 10 seconds

Sampling flow rate: 50ml/min(+/-10/min)

Measurement Range: 0-25%

Accuracy: 0~15% ($\pm 0.2\%$ of the reading)
 15~25%, unspecified

Rise time: 200 ms, typical at 50 ml/min flow rate

Total response time: within 3 seconds (with 2 m Momoline sampling line)

AWRR Range: 0-150 bpm

AWRR Accuracy: ± 1 breath

Phasein IRMA™ Mainstream CO2 (Optional)

Measurement Range: 0-25%

Accuracy: 0~15% ($\pm 0.2\%$ of the reading)
 15~25%, unspecified

Warm-up time: Full accuracy within, 10 seconds

AWRR Range: 0-150 bpm

AWRR Accuracy: ± 1 breath

Phasein IRMA™ AX+ Mainstream Multi-gas (Optional)

Gas: CO₂, N₂O, HAL, ISO, ENF, SEV, DES with automatic identification

Warm-up time: Full accuracy within 20 seconds for IRMA

AX+ CO₂ Accuracy:

0-10%: $\pm (0.2\% + 2\%$ of the reading)

0-15%: $\pm (0.3\% + 2\%$ of the reading)

N₂O Accuracy:

0-100%: $\pm (2\% + 2\%$ of the reading)

HAL, ISO, ENF:

0-8%: $\pm (0.15\% + 5\%$ of the reading)

SEV: 0-10%: $\pm (0.15\% + 5\%$ of the reading)

DES: 0-22%: $\pm (0.15\% + 5\%$ of the reading)

Agent identification time: < 20 s (typical < 10 s)

AWRR range: 0-150 bpm

AWRR accuracy: ± 1 bpm

Apnea time: 20~60 s

CETUS x15 Critical Care Patient Monitor

Technical Specifications

Aspect BISx module (Optional)

Parameter Measurement:

BC: 0~30 (Only limited to the combined use of an external sensor with a BIS module)

EMG: 30~55 dB (bar chart) with intensity between 30 dB and 80 dB (tendency chart)

BIS: 0~100

SQI: 0%~100%

SR: 0%~100%

SEF: 0.5 Hz~30 Hz

TP: 40~100 Db

EEG Measurement:

Input impedance >5 M Ω

Noise (RTI) <2 μ V (0.25~50 Hz)

Input signal range: \pm 1 Mv

EEG bandwidth between: 0.25 Hz~110 Hz

NMT Tof-Watch® SX (Optional)

Microprocessor-controlled

Stimulation Mode: TOF, TOFS, PTC, 1 Hz Twitch, 0.1 Hz Twitch, DBS DBS3.3 and 3.2 (Double Burst), Tetanic Stimulation (Burst), 5s–50 Hz or 100 Hz

Output (accuracy \pm 5% of full scale value)

Surface electrodes:

Constant current, 0-60 mA (0-12/18 μ C) up to 5 K Ω m.

Monophasic, 200 μ s or 300 μ s pulse width

Needle electrodes:

Constant current, 0-6 mA (0-0.24 μ C) up to 5 K Ω m.

Monophasic, 40 μ s pulse width

Acceleration transducer: Accuracy \pm 5% of full scale value

Temperature sensor: Range 20.0-41.5 $^{\circ}$ C (accuracy \pm 5 $^{\circ}$ C)

Operation Environment

Power: AC 100-250 V, 50/60 Hz

Temperature: 5-40 $^{\circ}$ C

Humidity: <80%

Patient Range: Adult, Pediatric, Neonate



axcent
medical



CETUS xl Advanced Patient Monitor

Features

- 15.6"/17/19" switchable Non fade TFT LCD Touch Screen
- Aluminium material shell
- Fanless design suitable for quiet care environment
- 10 waveform display, up to 12-lead ECG analysis
- Powerful calculation (Hemodynamic, Drug Dose, Oxygenation, Ventilation)
- SpO2 support PVI and PI, low perfusion 0.2%
- Aspect module, NMT (Organon TOF-Watch®) module optional
- Wired/Wireless CMS, support HL7 protocol to HIS
- SpO2 pulse-tone modulation (Pitch Tone)
- VGA support external display + visual and audio alarms
- Graphical & tabular trend review (120 hours)
- 48 h full disclosure wave review for each patient (stored in SD card)
- ST & arrhythmia analysis

CETUS xl Advanced Patient Monitor

Multiple parameter options satisfy the needs of ICU, CCU, NICU

Configuration: 5-lead ECG, SpO2, NIBP, Resp, PR; Li-ion battery

Optional: 12-lead ECG, Masimo/Nellcor SpO2, IBP, C.O., EtCO2, Multi-gas, BIS, NMT; VGA, Thermal Recorder, Wired/Wireless CMS

Electro-surgical interference protection, Defibrillator protection, Freeze and cascade facility



Masimo SET® SpO2
Provides anti-motion and anti-low perfusion SpO2 measurement.



Bispectral Index™ by Aspect
Monitor the level of consciousness of the patient under general anesthesia or sedation. provides BIS, SQI, EMG, SR, SEF, TP, PC value and EEG wave.



Masimo Phase II IRMA™/ISA
Sidestream/Mainstream EtCO2
Allows selection of the modality best suited to the application, monitoring with infrared absorption technique.



NMT
Intergrade Organon TOF-Watch® SX



IBP
2-4 Channel, support IBP waveform overlapping display



C.O.
Cardiac Output

Technical Specifications

Display

15.6" TFT Touch screen
Resolution: 1366 x 768
Number of traces: 12 waveforms

I/O

LAN: 1 standard RJ45 port
WLAN: IEEE 802.11b/g/n
USB: 2 USB connectors
SD: 1 SD card socket
VGA: 1 VGA monitor connector
Output: 1 connector for Nurse call, Defib Sync Analog Output

ECG

Lead type: 3-lead, 5-lead, 12-lead
ECG waveform: 2 channels, 7 channels, 12 channels
Display sensitivity: 2.5 mm/mV (×0.25), 5 mm/mV (×0.5), 10 mm/mV (×1.0), 20 mm/mV (×2.0)
Wave sweep speed: 6.25 mm/s, 12.5 mm/s, 25 mm/s, 50 mm/s (15-300 bpm)
Bandwidth
Diagnostic mode: 0.05 Hz~100 Hz
Monitor mode: 0.5 Hz~40 Hz
Surgery mode: 1 Hz~20 Hz
Strong filter mode: 5 Hz~20 Hz

CETUS xl Advanced Patient Monitor

Technical Specifications

CMRR>100dB

Notch: 50/60Hz notch filter can be set to on or off

Differential input impedance >5 MΩ

Electrode polarization voltage range: ±400 mV

Baseline recovery time <3s after defibrillation (in monitor and surgery mode)

Calibration signal: 1 mV (peak - peak), accuracy ±3%

Real time and freeze tracing

RESP

Measurement method: Thoracic electrical (0-150bpm)

bioimpedance

Measuring lead: Lead I, II

Wavegain: ×0.25, ×0.5, ×1, ×2

Respiratory impedance range: 0.5-5 Ω

Baseline impedance: 500-4000 Ω

Gain: 10 grades

Scan speed: 6.25 mm/s, 12.5 mm/s, 25 mm/s

Display: Breathe rate and apnea alarms

TEMP

Accuracy: ±0.1 °C or ±0.2 °F (without probe)

Measurement range: 0~50 °C (32~122 °F)

Channel: Two channels

Resolution: 0.1 °C

Parameters: T1, T2 and TD



SpO2

Measurement range: 0-100%

Resolution: 1%

Accuracy: ±2% (70-100%, Adult/Pediatric);
±3% (70-100%, Neonate);
0-69%, unspecified

Refreshing Rate: 1s

Masimo SET® SpO2(Optional)

Measurement range: 0-100%

Resolution: 1%

Accuracy: ±2% (70-100%, Adult/Pediatric,
non-motion, low perfusion);
±3% (70-100%, Neonate,
non-motion);
±3% (70-100%, motion);
0-69%, unspecified

Refreshing Rate: 1s

Saturation, Perfusion and Pulse Rate

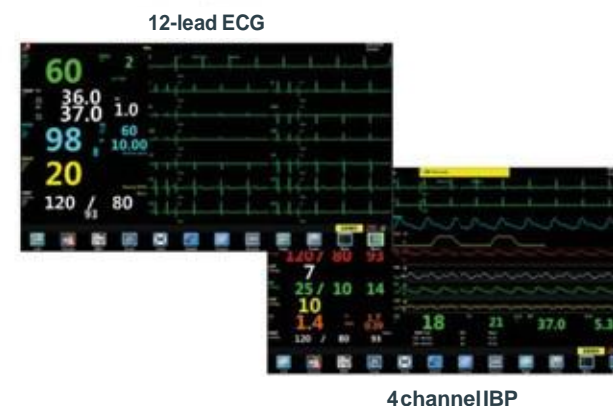
Pulse Rate

Range: 30~300 bpm

Resolution: 1bpm

Accuracy: ±2bpm (non-motion)
±5bpm (motion)

Refreshing rate: 1s



NIBP

Measurement method: Automatic oscillometric method

Operating mode: Manual, automatic, continuous

Measurement unit: mmHg/kPa selectable

Typical measurement time: 20~40s

Measurement type: Systolic, Diastolic, Mean

Measurement range (mmHg)

| | | |
|-----------------------------|-----------|--------|
| Range of Systolic pressure: | Adult | 40-270 |
| | Pediatric | 40-200 |
| | Neonatal | 40-135 |

| | | |
|------------------------------|-----------|--------|
| Range of Diastolic pressure: | Adult | 10-210 |
| | Pediatric | 10-150 |
| | Neonatal | 10-95 |

| | | |
|-------------------------|-----------|--------|
| Range of Mean pressure: | Adult | 20-230 |
| | Pediatric | 20-165 |
| | Neonatal | 20-105 |

Measurement accuracy

Maximum average error: ±5 mmHg

Maximum standard deviation: 8 mmHg

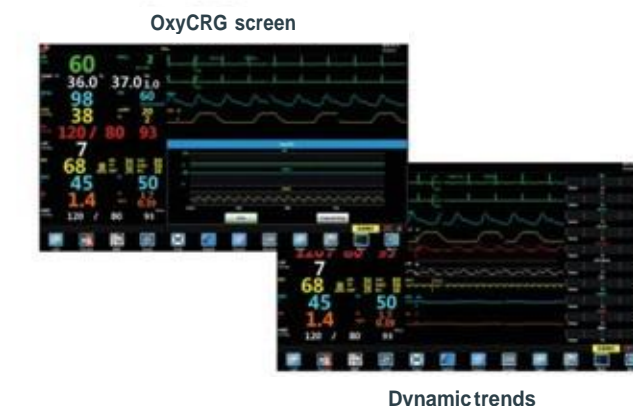
Resolution: 1 mmHg

Interval: 1, 2, 3, 4, 5, 10, 15, 30, 60, 90, 120, 180, 240, 480 minutes

Overpressure protection: Software and hardware, double safety protection

Cuff pressure range: 0-280mmHg

Rising cuff pressure display



IBP (Optional)

Channel: 2-channel or 4-channel

ART: 0 to 300 mmHg

PA: -6 to 120 mmHg

CVP/RAP/LAP/ICP: -10 to 40 mmHg

Measurement range: P1/P2 -50 to 300 mmHg

Resolution: 1 mmHg

Accuracy: ±2% or ±1 mmHg, whichever is greater (without sensor)

Sensitivity: 5uV/mmHg/V

Impedance range: 300 to 3000 Ω

C.O. (Optional)

Method: Thermodilution

Range: C.O.: 0.2 to 20 L/min

TB: 23 to 45 °C

T1: -1 to 27 °C

Accuracy: C.O.: ±5% or ±0.1L/min, whichever is greater TB, T1: ±0.5°C (without sensor)

CETUS xl Advanced Patient Monitor

Technical Specifications

Standard Mainstream CO2 (Optional)

Measurement range: 0-19.7%,

0-150 mmHg, or 0-20kPa

Resolution: 0.1 mmHg

Measurement accuracy

0 - 40 mmHg: ± 2 mmHg

41 - 70 mmHg: $\pm 5\%$ of reading

71 - 100 mmHg: $\pm 8\%$ of reading

101 - 150 mmHg: $\pm 10\%$ of reading

Respiration rate: 3-150 bpm

Respiration rate accuracy: $1\% \pm 1$ bpm

Warm-up time: 97% within 8s, full accuracy within 20s

Standard Sidestream CO2 (Optional)

Measurement range: 0-20% (0-150 mmHg)

Accuracy: $< 5.0\%$ CO₂: ± 2 mmHg

$> 5.0\%$ CO₂: $< 6\%$ of reading

Respiration rate: 2~150 BPM

Respiration rate accuracy: $1\% \pm 1$ BPM

Warm-up time: 97% within 45s, full accuracy within 10 min

Rise times (t_{10-90%}): About 100 ms, when flow is 100 ml/min, adult water trap 1.5m sampling tube

Delay time: < 3 sec when flow is 100 ml/min, adult water trap 1.5 m sampling tube

Recorder (Optional)

Built-in, Thermal dot array

Horizontal resolution: 16 dots/mm (25 mm/s paper speed)

Vertical resolution: 8 dots/mm

Paper speed: 25 mm/s, 50 mm/s

Number of waveform channels: 3

Phasein ISA Sidestream CO2 (Optional)

Warm-up time: Full accuracy within 10 seconds

Sampling flow rate: 50ml/min(+/-10/min)

Measurement Range: 0-25%

Accuracy: 0~15% ($\pm 0.2\%$ of the reading)

15~25%, unspecified

Rise time: 200 ms, typical at 50 ml/min flow rate

Total response time: within 3 seconds (with 2 m Momoline sampling line)

AWRR Range: 0-150 bpm

AWRR Accuracy: ± 1 breath

Phasein IRMA™ Mainstream CO2 (Optional)

Measurement Range: 0-25%

Accuracy: 0~15% ($\pm 0.2\%$ of the reading)

15~25%, unspecified

Warm-up time: Full accuracy within 10 seconds

AWRR Range: 0-150 bpm

AWRR Accuracy: ± 1 breath

Phasein IRMA™ AX+ Mainstream Multi-gas (Optional)

Gas: CO₂, N₂O, HAL, ISO, ENF, SEV, DES with automatic identification

Warm-up time: Full accuracy within 20 seconds for IRMA AX+

CO₂ Accuracy:

0-10%: $\pm (0.2\% + 2\%$ of the reading)

0-15%: $\pm (0.3\% + 2\%$ of the reading)

N₂O Accuracy:

0-100%: $\pm (2\% + 2\%$ of the reading)

HAL, ISO, ENF:

0-8%: $\pm (0.15\% + 5\%$ of the reading)



Vivid visualized icons ... Engineered for the most impressive operation

SEV:0-10%: $\pm (0.15\% + 5\%$ of the reading)

DES:0-22%: $\pm (0.15\% + 5\%$ of the reading)

Agent identification time: < 20 s (typical < 10 s)

AWRR range: 0-150 bpm

AWRR accuracy: ± 1 bpm

Apnea time: 20~60s

Aspect BISx module (Optional)

Parameter Measurement:

BC: 0~30 (Only limited to the combined use of an external sensor with a BIS module)

EMG: 30~55dB (bar chart) with intensity between 30dB and 80dB (tendency chart)

BIS: 0~100

SQI: 0%~100%

SR: 0%~100%

SEF: 0.5 Hz~30Hz

TP: 40~100 Db

EEG Measurement: Input impedance > 5 M Ω

Noise (RTI) < 2 μ V (0.25~50 Hz)

Input signal range: ± 1 Mv

EEG bandwidth between: 0.25 Hz~110 Hz

NMT Tof-Watch® SX (Optional)

Microprocessor-controlled

Stimulation Mode: TOF, TOFS, PTC, 1Hz

Twitch, 0.1Hz

Twitch, DBS DBS3.3 and 3.2 (Double Burst),

Tetanic Stimulation (Burst), 5s – 50 Hz or 100 Hz

Output (accuracy $\pm 5\%$ of full scale value)

Surface electrodes:

Constant current, 0-60mA (0-12/18 μ C) up to 5 K Ω m.

Monophasic, 200 μ s or 300 μ s pulse width

Needle electrodes:

Constant current, 0-6 mA (0-0.24 μ C) up to 5 K Ω m.

Monophasic, 40 μ s pulse width

Acceleration transducer: Accuracy $\pm 5\%$ of full scale value

Temperature sensor: Range 20.0-41.5 °C (accuracy ± 5 °C)

Operation Environment

Power: AC 100-250 V, 50/60 Hz

Temperature: 5-40 °C

Humidity: $< 80\%$

Patient Range: Adult, Pediatric, Neonate



Patient Monitoring Solutions

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