



Patient Monitoring Solutions





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 ($\times 0.25$), 5 mm/mV ($\times 0.5$),

10 mm/mV ($\times 1.0$), 20 mm/mV ($\times 2.0$)

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 M Ω

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 $\pm 3\%$

RESP

Measurement method: Thoracic electrical bioimpedance

Rate: 0 – 150 bpm

Measuring lead: Lead I, II

Wave gain: $\times 0.25$, $\times 0.5$, $\times 1$, $\times 2$

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 $^{\circ}\text{C}$ (41~122 $^{\circ}\text{F}$)

Resolution: 0.1 $^{\circ}\text{C}$

Measurement accuracy: ± 0.1 $^{\circ}\text{C}$

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



Portable Design



Touch Screen
(Optional)



Quick Temp
(Infrared Ear Thermometer)



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: ± (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: ± (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

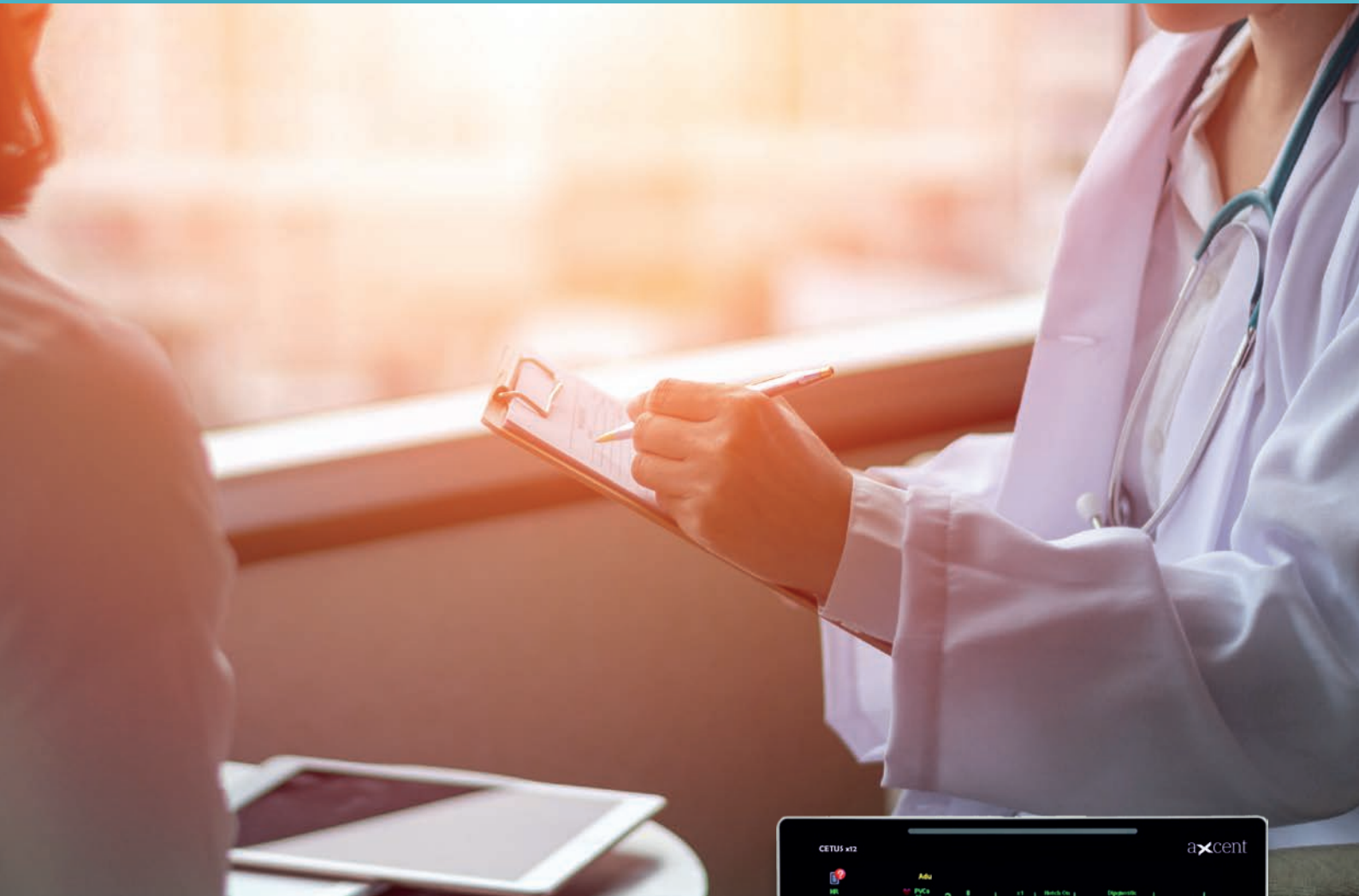
Temperature: 0-40 °C

Humidity: 15-85%

Patient Range: Adult, Pediatric, Neonate

Battery backup: Standard 4-5 hrs (2.600 mAh), optional 8-10 hrs (5.200 mAh) or 12-15 hrs (7.800 mAh)

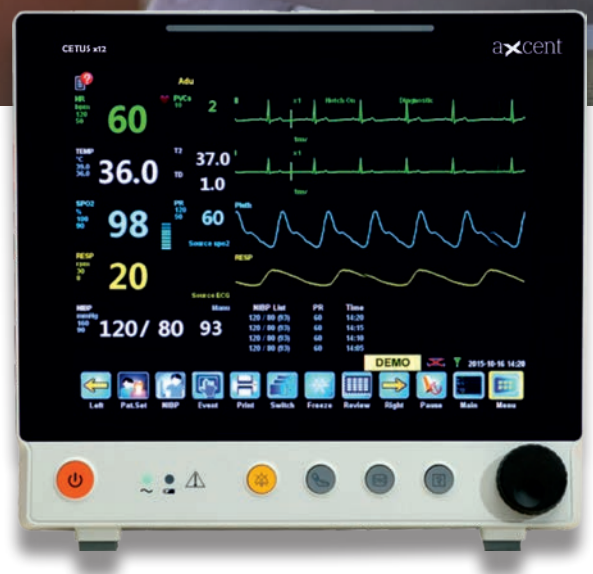




CETUS x12 Patient Monitor

Features

- 12.1" color TFT LCD screen
- 8 waveform display, up to 12-lead ECG analysis
- Useful 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 SpO2, 2/4/6 IBP, C.O., EtCO2, Multi-Gas, BIS, NMT, VGA, Thermal Recorder, Wired/Wireless CMS

Technical Specifications

Display

12.1" TFT (touch screen optional)

Resolution: 800 x 600

Number of traces: 8 waveforms

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: 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%

RESP

Measurement method: Thoracic electrical bioimpedance

Rate: 0 – 150 bpm

Measuring lead: Lead I, II

Wave gain: ×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

Pulse Rate

Range: 30~254 bpm

Resolution: 1bpm

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

Refreshing rate: 1s

TEMP

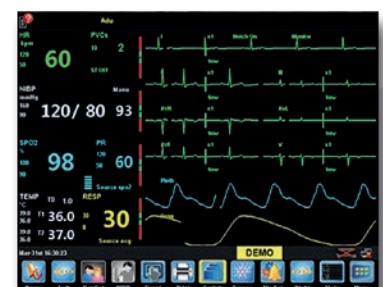
Accuracy: ±0.1 °C or ±0.2 °C °F (without probe)

Measurement range: 5~50 °C (41~122 °F)

Channel: Two channels

Resolution: 0.1 °C

Parameters: T1, T2 and TD



7-lead ECG

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

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

Temperature: 5-40 °C

Humidity: <80%

Patient Range: Adult, Pediatric, Neonate

Battery backup: Standard 2-3 hrs (2.600 mAh), optional 3-5 hrs (4.800 mAh)







CETUS x15

Critical Care Patient Monitor

Features

- 15.6" High resolution TFT LCD Touch screen
- 10 waveform display, up to 12-lead ECG analysis
- Useful calculation (Hemodynamic, Drug Dose, Oxygenation, Ventilation)
- Pacemaker detection
- ST & arrhythmia analysis
- SpO2 support PVI and PI, low perfusion 0.2%
- Aspect BISx module, NMT 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



CETUS x15 Critical Care Patient Monitor

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

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

Optional: Touch-Screen, 12-lead ECG, Masimo SpO2, 2/4/6 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 Phasein 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: 10 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 >5M Ω

Electrode polarization voltage range: \pm 400mV

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

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

RESP

Measurement method: Thoracic electrical bioimpedance

Rate: 0 – 150 bpm

Measuring lead: Lead I, II

Wave gain: \times 0.25, \times 0.5, \times 1, \times 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: \pm 0.1 or \pm 0.2 $^{\circ}$ F (without probe)

Measurement range: 5~50 (41~122 $^{\circ}$ F)

Channel: Two channels

Resolution: 0.1

Parameters: T1, T2 and TD

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

Pulse Rate

Range: 30~254 bpm

Resolution: 1 bpm

Accuracy: \pm 2bpm (non-motion)
 \pm 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, 4 or 6-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)

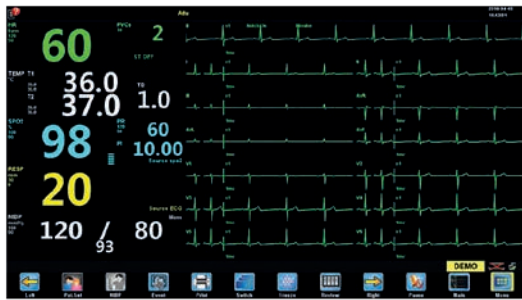
Built-in, Thermal dot array

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

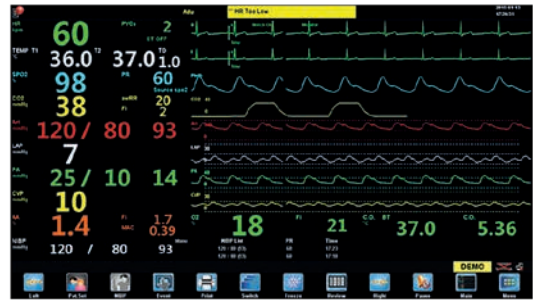
Vertical resolution: 8 dots/mm

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 Nomoline 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

Battery backup: Standard 2-3 hrs (2.600 mAh), optional 3-5 hrs (4.800 mAh)



axcent
medical





CETUS xl Advanced Patient Monitor

Features

- 15.6"/17/19" switchable TFT LCD Touch Screen
- Aluminium material shell
- Fanless design suitable for quiet care environment
- 10 waveform display, up to 12-lead ECG analysis
- Useful calculation (Hemodynamic, Drug Dose, Oxygenation, Ventilation)
- SpO2 support PVI and PI, low perfusion 0.2%
- Aspect BISx module, NMT 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 h full disclosure wave review for each patient



CETUS xl Advanced Patient Monitor

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

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

Optional: 12-lead ECG, Masimo SpO2, 2/4/6 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 Phasein 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: 10 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: 6.25mm/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

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 M Ω

Electrode polarization voltage range: ± 400 mV

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

Calibration signal: 1 mV (peak - peak), accuracy $\pm 3\%$

RESP

Measurement method: Thoracic electrical bioimpedance

Rate: 0 – 150 bpm

Measuring lead: Lead I, II

Wave gain: $\times 0.25$, $\times 0.5$, $\times 1$, $\times 2$

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 $^{\circ}\text{C}$ or ± 0.2 $^{\circ}\text{F}$ (without probe)

Measurement range: 5~50 $^{\circ}\text{C}$ (41~122 $^{\circ}\text{F}$)

Channel: Two channels

Resolution: 0.1 $^{\circ}\text{C}$

Parameters: T1, T2 and TD

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

Pulse Rate

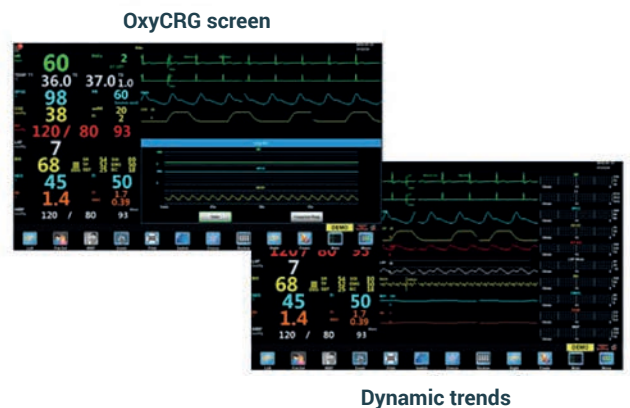
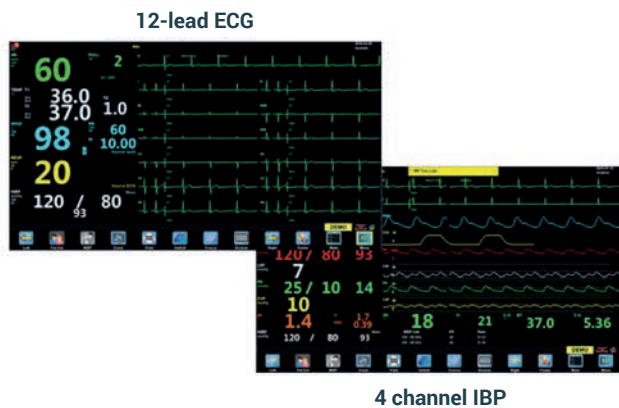
Range: 30~254 bpm

Resolution: 1bpm

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

IBP (Optional)

Channel: 2, 4 or 6-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: $\pm 2\%$ 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 $^{\circ}\text{C}$

T1: -1 to 27 $^{\circ}\text{C}$

Accuracy: C.O.: $\pm 5\%$ or ± 0.1 L/min, whichever is greater TB, T1: $\pm 0.5^{\circ}\text{C}$ (without sensor)

CETUS xl Advanced Patient Monitor

Technical Specifications

Standard Mainstream CO2 (Optional)

Measurement range: 0-19.7%,
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: <3sec 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 se-
conds
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 Nomoline 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: <20s(typical <10s)
 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: \pm 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 KOhm.
 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 KOhm.
 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
 Battery backup: Standard 2-3 hrs (2.600 mAh), optional 3-5 hrs (4.800 mAh)



Patient Monitoring Solutions

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