Virgo

Patient Monitor

NORTHERN MEDITEC

Committed to Excellence

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

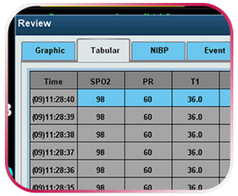
Configuration

ECG+SpO2+NIBP+2TEMP+PR+RESP, Li-ion battery

Optional

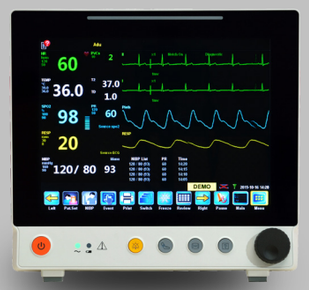
Masimo SpO2, Suntech NIBP, IBP, CO2, Thermal recorder, Touch screen, CMS

7-lead ECG



Graphical & Tabular Trend

240	Hours long trend
120	Mins short trend
1000	NIBP measurements
200	Alarm events



Northern Meditec

Virgo

Patient Monitor

- 12.1" color TFT LCD screen(touchscreen is optional)
- 8 waveform display,up to 12-lead ECG analysis
- Powerful calculation(Hemodynamic,Dose,Oxygenation,Ventilation)
- Pacemaker detection
- ST & arrhythmia analysis(17 types)
- SpO2 support PI，low perfusion 0.2%
- Night mode, standby mode, venipucture mode
- Various mounting solutions
- Wired/Wireless CMS, support HL7 protocol to HIS
- SpO2 pulse-tone modulation (Pitch Tone)
- MEWS(Modified Early Warning Score)
- Graphical & tabular trend review(240 hours), USB data output
- Rechargeable Lithium-Ion Battery
- 48 Hours full disclosure waveforms review & print for each patient

Specifications

Physical Specification

Display
12.1" TFT LCD screen
Resolution: 800 x 600 (1024 x 768 optional)
Number of traces: 8, up to 12 ECG waveforms
Dimension: 310×292×174mm(W×H×D)
Weight: < 4 kg under standard configuration
LAN: 1 standard RJ45 port
WLAN:IEEE 802.11b/g/n
USB: 2 USB connectors

ECG

Lead type :3-lead,5-lead,12-lead(optional)
ECG waveform:2 channels,7 channels, 12 channels
Display sensitivity(wave gain):
1.25mm/mV(×0.125), 2.5mm/mV (×0.25), 5mm/mV (×0.5), 10mm/mV (×1.0), 20mm/mV (×2.0), 40mm/mV (×4.0), Auto
Wave sweep speed:
3.125mm/s, 6.25mm/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: 50/60Hz notch filter can be set to on or off
Differential input impedance>5MΩ
Electrode polarization voltage range: ±400mV
HR range: 15 - 350 bpm
ST Measurement Range: -1.0 - +10 mv
Baseline recovery time<3s after defibrillation (in monitor and surgery mode)
Calibration signal:1mV (peak - peak), accuracy ±3%

Pulse Rate

Range: 30~300bpm
Resolution: 1bpm
Accuracy: ±2bpm (non-motion)
±5bpm (motion)
Refreshing rate: 1s

SpO2

Measurement range : 0-100%
Resolution: 1%
Perfusion index display
Accuracy: ±2% (70-100%, Adult/Pediatric);
±3% (70-100%, Neonate);
0-69%,unspecified
Refreshing Rate: 1s

RESP

Measurement method : Thoracic electrical bioimpedance
Operation modes: Auto/Manual
Measuring lead: Lead I, II
Measurement range: Adult:0~120 bmp;
Neonate/Pediatric:0~150bpm
Resolution: 1 bpm
Apnea alarm delay:10s,15s,20s,25s,30s,35s,40s
Apnea alarm: Selectable
Wave gain: ×0.25, ×0.5, ×1, ×2
Respiratory impedance range: 0.5-5Ω
Baseline impedance: 500-4000Ω
Gain: 10 grades
Scan speed: 3.125mm/s, 6.25mm/s, 12.5 mm/s, 25mm/s

TEMP

Accuracy:±0.1℃ or ±0.2°F
Measurement range: 5~50℃ (41~122°F)
Channel: Two channels
Resolution: 0.1℃
Parameters: T1,T2 and TD

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	40-280
	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: ±5mmHg
Maximum standard deviation: 8mmHg
Resolution: 1mmHg
Interval:1,2,3,4,5,10,15,30,60,90,120,180,240,480minutes
Overpressure protection: Software and hardware, double safety protection
Cuff pressure range: 0-300mmHg

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

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

Mainstream CO2(Optional)

Measurement range: 0-19.7%,150mmHg, or 0-20kPa
Resolution: 0.1mmHg
Measurement accuracy
0 - 40 mmHg: ± 2 mmHg
41 - 70 mmHg: ± 5% of reading
71 - 100 mmHg: ± 8% of reading
101 - 150 mmHg: ± 10% of reading
Respiration rate: 3-150 bpm
Respiration rate accuracy: 1% ±1bpm
Warm-up time: 97% within 8s, full accuracy within 20s

Sidetream CO2(Optional)

Measurement rage: 0-20% (0 - 150mmHg)
Accuracy: < 5.0% CO 2: ± 2 mmHg
> 5.0% CO 2: < 6% of reading
Respiration rate: 2 ~ 150 BPM
Respiration rate accuracy: 1% ±1BPM
Warm-up time: 97% within 45s, full accuracy within 10 min
Rise times(t10-90%): About 100ms, 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, 1.5m sampling tube

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:
±2% or ±1mmHg, whichever is greater(without sensor)
Sensitivity: 5uV/mmHg/V
Impedance range: 300 to 3000Ω

Operation Environment

Power: AC 100-250V, 50/60Hz
Temperature: 5-40℃
Humidity: <80%
Patient Range: Adult, Pediatric, Neonate

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