

# Pisces

## Bed-side Patient Monitor

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



Committed to Excellence

### Configuration

### Optional

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

Masimo/Nellcor SpO2, EtCO2, C.O., 2-IBP, BIS, NMT, Thermal recorder



Masimo CO2/Multi-gas



Masimo SpO2

Time	SPO2	PR	T1
(09)11:28:40	98	60	36.0
(09)11:28:39	98	60	36.0
(09)11:28:38	98	60	36.0
(09)11:28:37	98	60	36.0
(09)11:28:36	98	60	36.0
(09)11:28:35	98	60	36.0

Graphical & Tabular Trend

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



**Northern Meditec**

# Pisces

## Bed-side Patient Monitor

- 12.1" color TFT LCD screen
- 8 waveform display, up to 12-lead ECG analysis
- Powerful calculation (Hemodynamic, Dose, Oxygenation, Ventilation)
- Pacemaker detection
- ST & arrhythmia analysis
- OxyCRGs
- 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 (120 hours)
- 48h full disclosure wave review for each patient



### Specifications

#### Physical Specification

Display  
12.1" TFT Touch screen  
Resolution: 800 x 600 (1024 x 768 optional)  
Number of traces: 8, up to 12 ECG waveforms  
Dimension: 310x292x174mm(WxHxD)  
Weight: < 5 kg under standard configuration  
LAN: 1 standard RJ45 port  
WLAN: IEEE 802.11b/g/n  
USB: 2 USB connectors  
Output: 1 connector for Nurse call, Defib Sync Analog Output

#### ECG

Lead type: 3-lead, 5-lead, 12-lead (optional)  
ECG waveform: 2 channels, 7 channels, 12 channels  
Display sensitivity:  
2.5mm/mV (x0.25), 5mm/mV (x0.5), 10mm/mV (x1.0),  
20mm/mV (x2.0)  
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%

#### TEMP

Accuracy: ±0.1°C or ±0.2°F (without probe)  
Measurement range: 0~50°C  
Channel: Two channels  
Resolution: 0.1°C  
Parameters: T1, T2 and TD

#### RESP

Measurement method: Thoracic electrical bioimpedance  
Operation modes: Auto/Manual  
Measuring lead: Lead I, II  
Measurement range: Adult: 0~120 bpm;  
Neonate/Pediatric: 0~150bpm  
Resolution: 1 bpm  
Apnea alarm delay: 10s, 15s, 20s, 25s, 30s, 35s, 40s  
Apnea alarm: Selectable  
Wave gain: x0.25, x0.5, x1, x2  
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

#### Pulse Rate

Range: 30~300 bpm  
Resolution: 1bpm  
Accuracy: ±3bpm (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	40-280
	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, 480 minutes  
Overpressure protection: Software and hardware, double safety protection  
Cuff pressure range: 0-300mmHg

#### SpO2 (Northern)

Measurement range: 0-100%  
Parameter monitoring: Perfusion Index (PI)  
Pleth Variability Index (PVI)  
Resolution: 1%  
Accuracy: ±2% or ±2bpm  
Refreshing Rate: 1s  
Pleth wave speed: 3.125mm/s, 6.25mm/s, 12.5 mm/s, 25mm/s

#### Masimo 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

#### C.O. (optional)

Method: Thermolimitation  
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)

#### 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

#### Masimo ISA™ Sidestream CO2 (optional)

Warm-up time: Full accuracy within 10 seconds  
Sampling flow rate: 50ml/min (+/-10/min)  
Accuracy: 0~15% (±0.2% of the reading)  
15~25%, unspecified  
Measurement Range: 0 -25%  
Rise time: 200ms, typical at 50ml/min flow rate  
Total response time:  
within 3 seconds (with 2m Momoline sampling line)  
AWRR Range: 0~150bpm

#### Masimo IRMA™ Mainstream CO2 (optional)

Measurement Range: 0 -25%  
Warm-up time: Full accuracy within 10 seconds  
Accuracy: 0~15% (±0.2% of the reading)  
15~25%, unspecified  
AWRR Range: 0-150bpm

#### Masimo Multi-gas ISA OR+/IRMA AX+ CO2 (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%: ±(0.2%+2% of the reading)  
0-15%: ±(0.3%+2% of the reading)  
N2O Accuracy: 0-100%: ±(2%+2% of the reading)  
HAL, ISO, ENF: 0-8%: ±(0.15%+5% of the reading)  
SEV: 0-10%: ±(0.15%+5% of the reading)  
DES: 0-22%: ±(0.15%+5% of the reading)  
Agent identification time: < 20s (typical < 10s)  
AWRR range: 0-150bpm  
AWRR accuracy: +/-1bpm  
Apnea time: 20-60s

#### Recorder (optional)

Built-in, Thermal dot array  
Horizontal resolution: 16 dots/mm (25 mm/s paper speed)  
Vertical resolution: 8 dots/mm  
Paper speed: 12.5mm/s, 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

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