



## The Logical Solution for Bedside Patient Monitoring

The VitaLogik bedside patient monitoring system is a flexible device, specifically designed and configured to suit the needs of a wide range of patient environments. Available in two versions: invasive VitaLogik 5500, and non invasive VitaLogik 5000, VitaLogik offers a precise and reliable solution for critical care.

This state of the art system is easily adaptable to meet the specific requirements of a diverse scope of patients, including Adult, Pediatric and Neonatal, enabling tailored customization for each individual unit. Its user-friendly interface allows for simple and effective monitoring and data streamlining, providing intuitive access to real-time, valuable clinical information. Furthermore, its highly compatible technology platform facilitates unlimited storage for long-term access to patient data.

### Benefits

**Ease of Use:** Intuitive operation and functionality, with various preset and customizable monitoring profiles, user-friendly interface design, large sized fonts in a special "big numbers" display and a convenient full color presentation with an optional touch screen.

**Flexibility:** Modular settings and editable menus, easily adaptable to a wide variety of patient environments with specified requirements.

**Clinical Added Value:** Maximal simultaneous parameter presentation, including 12 leads ECG, numeric and graphic heart rate display.

**Cost Efficiency:** Low maintenance and spare parts costs, minimizing total life cost.

**Barcode (optional):** Standard barcode input, enabling quick access to individual patient's data and easy patient identification, increasing reliability and safety while saving valuable medical staff time.

### Product Highlights

Two versions: Invasive / Non invasive

Full connectivity with Mennen's products and other medical IT systems

Full patient customization

User-friendly, intuitive interface including easy access "Quick keys"

Standard communication protocols and long term patient data archiving capabilities

PC platform: Easy to use, upgradeable, low costs and minimal down time



## Clinical Features

Parameters:

- 3 / 5 / 6 / 12 lead ECG
- Respiration
- NIBP
- SpO2: Masimo or Nellcor technology
- Temperature
- EtCO2 Microstream
- 2 Invasive BP
- Cardiac Output / 2 temperatures
- Serial RS 232 input
- Analog Outputs

Full Disclosure: Retrieval of all ECG leads in full resolution, enabling the viewing of all arrhythmias throughout entire monitoring process.

Event Strips: Up to 75 user-labeled event strips, of all waveforms and alarms at time of the event.

Graphic Trend: Trend panel presentation of graphic trends, including up to eight vital signs with resolution of up to one minute. Long-term view of patient condition changes and their direction.

Numerical Chart: Numerical values of vital signs displayed in up to one minute resolution, including alarms and event marking. User-defined and configured to suit specific patient environment.

Arrhythmia Analysis: Two configuration options: Basic or Extended analysis. Continuous ECG waveform analysis, based on dual lead QRS algorithm, displayed in numerical chart and graphic trend.

ST Watch: Review of ST data as long-term graphic display, representing ST trend changes over time. Trend presentation display of calculated ST parameters. Allows morphology comparisons.

ST All-Lead Analysis: Simultaneous and continuous ST analysis of all ECG leads with ST alarm.

HRV: Calculates indications of heart rate changes within a given time, providing a histogram report, including chart and trends of time domain. HRV statistical parameters of normal QRS complexes.

All-inclusive ECG Lead Display: Simultaneous display of all ECG leads, automatically reverted to main screen following a specified time frame.

Drug Titration and Calculation: Drug concentrate, infusion rate and injection amount calculations performed, according to defined clinical parameters. All medication charts linked to full disclosure, overview and trends.



# VitaLogik 5000 Series



VitaLogik is a configured monitor with:

- 12 lead ECG
- Respiration
- NIBP
- SpO2
- Temperature
- 2 BP
- CO/ 2 Temperatures
- EtCO2 Microstream (optional)

Available in two versions:

- VitaLogik 5000: Non Invasive monitor: 12 lead ECG, Respiration, NIBP, SpO2
- VitaLogik 5500: Full monitor

Both versions will offer Microstream EtCO2 as an option.

Uses the same GUI and display options as the Envoy monitor and is fully compatible with the Enguard remote monitor and the Ensemble central station.

Two unit monitor consists of: Display and Bedside computers

Vital signs input connectors are part of the bed side computer

General

- Configured monitor
- CPU with user controls
- Applied Part Type BF for: NIBP, SpO2, EtCO2

- Applied Part type CF for ECG, BP, CO/Temp

- Defibrillation proof

CPU Details

Intel X86 family main CPU

Sound Blaster 4 W audio power

Mass storage: 40 GB fixed disk, optional expansion available

Operating System: QNX

Window manager: Photon

CPU Dimensions

(not including display)

HxWxD: 90x330x370 mm

Weight: 6 Kg. (13 lb)

Power requirement

(not including display)

- 120 VAC, 2A, 60 Hz (factory set)

- Fuse rating 3.15 Hz.

- 230 VAC, 1A, 50 Hz

- Fuse rating 2.0Ele

Network

- Physical: IEEE 802.3 Ethernet interface with Category 5, 10/100BaseT twisted pair media

Other media available

- Protocol: TCP/IP

Color Display

- 17, 20" Flat Screen

- 17" Flat display with touch screen

(optional)

- Traces: 1 to 8, depending on parameter-

specific setup choices

- Resolution 1024x768

User Controls

- Fixed keys
- Quickknob
- Remote Control (optional)
- Touch Screen (optional)

Display

- Waveform Display - Standard

-175 mm horizontal area

-7 sec.@ 25mm/sec

-Up to 8 traces

-Overlapping traces

- Numeric Display

-85 mm horizontal area

-25 mm vertical area

-20 mm SpO2

-"Big Numbers"

-Waveform Vital Sign and Event Trend Format

- Very Big Number mode

-One or Two Lead ECG WF, 40 mm height HR

-Four areas with 10 mm Waveform and 30 mm height numeric Vital Signs

- Review

-Tabular Chart all parameters 90 Days

-Graphic Trends all parameters 90 Days

-Full Disclosure all waveforms 45 Days

-Overview 45 Days

Default Alarms

- User defined
- Fixed or calculated values

## ECG (3/5/6/12 Lead)

- Sampling Rate and Resolution

-Sampling rate: 640Hz

-Resolution: 22 bit

- Frequency Response

-Diagnostic: 0.05 to 150 Hz

-Monitoring: 0.5 to 40 Hz

-Exercise: 1.0 to 25 Hz

-ST: 0.05 to 40 Hz

- QRS Detection Range

-Height: 0.25 to 5.0 millivolt

-Width: 70 to 120 milliseconds

- Heart Rate Counting

-Range: 20 to 350 BPM

-Accuracy:  $\pm 2$  BPM

-Note: Values below 20- forced to zero

- Heart Rate Alarm Settings

-High and low rate: 20 - 350 BPM

non-overlapping

- Leads analyzed for Heart Rate and

Arrhythmia Configuration

-Top two displayed

- ECG Leads:

-I or II or III (3 Lead cable)

-I, II, III, aVR, aVL, aVF, V (5 Lead cable)

-I, II, III, aVR, aVL, aVF, Va, Vb (6 Lead cable);

-I, II, III, aVR, aVL, aVF, V1-V6 (12 Lead module)

- Common Mode Rejection

-120 dB, minimum

- Lead Fault Detection: based on impedance

- Pacemaker Detection and Rejection

-Amplitude: 2 mV to 700 mV

-Width: 0.1 ms to 2.0 ms

-Pacemaker flag inserted into displayed waveform

- Data Storage:

-Beat notification

-RR Interval

-Heart Rate

-ST values

-Arrhythmia

-Alarms

-Parameter settings

-Cycle time and measurement time markers

-Alarm event markers

Respiration

- Lead Selection

-RA-LA or RA-LL

- Respiration Sensitivity Range

-0.2 ohm to 5.0 ohm

- Impedance Range

-100 to 3,000 ohm @ 65 kHz

- Respiration Rate Counting Range

-4 to 150 BPM

- Respiration Frequency Response

-0.13 to 2.5 Hz (-3 dB)

-Sampling rate: 38 Hz

- Respiration Alarm Settings

-Low rate: 0 - 150 BPM

-High rate: 8- 150 BPM

-Apnea: User configurable

-Cardiac coincidence alarm

- Data Storage:

-Respiration rate

-Respiration rate Alarms

-Apnea alarms

-Alarm event markers

Non-Invasive Blood Pressure

- LED for function indication

- Oscillometric Method

- Displayed Parameters

-Systolic, Diastolic, Mean pressure values

-Time of last measurement, measurement interval, cuff size and heart rate

- Cuff Size: Adult, Pediatric, Infant, Neonatal

- Inflation Rate: Within 5 sec.

-Initial inflation target: 150 mmHg, Adult/Pediatric

-Initial inflation target: 100 mmHg, Neonatal

- Cycle Times

-Deflation time (typical): 30 sec.

-BP time-out: 60 - 180 sec.

- Measurement Ranges, Adult (in mmHg)

- Systolic: 25 to 255
- Diastolic: 10 to 220
- Mean: 18 to 235
- Measurement Ranges, Neonatal (in mmHg)
- Systolic: 20 to 135
- Diastolic: 5 to 110
- Mean: 10-125
- Modes: Auto, Manual, STAT
- Pressure - Transducer Accuracy
- $\pm 3$  mmHg or  $\pm 2\%$ , whichever is greater
- Heart Rate
- 40 to 140 BPM, Adult/Pediatric
- 40 to 240 BPM Neonatal
- Data Storage:
- measurement time markers
- S/D/M
- Alarm even markers
- Pulse Oximetry (SpO<sub>2</sub>)**
- Massimo SET Technology
- Saturation Range
- 1% to 100% SpO<sub>2</sub>
- SpO<sub>2</sub> Accuracy
- % SpO<sub>2</sub>  $\pm 1$  standard deviation
- Pulse Rate Range
- 20 to 250 BPM  $\pm 3$  BPM
- Saturation alarm limits:
- 50% to 100%
- Data Storage:
- Heart rate and O<sub>2</sub> saturation
- Alarms
- BP**
- LED for function indication
- Site Labels:
- BPX, ART, PAP, CVP, RAP, LAP, ICP
- Input Sensitivity: 5  $\mu$ Volt/Volt/mmHg
- Dynamic Range
- Pressure range: -50 to +350 mmHg
- Zero range:  $\pm 150$  mmHg
- Total dynamic range: -200 to +450 mmHg
- Transducer Excitation Voltage: +5 VDC
- Separate excitation driver for each channel
- Zero Accuracy:  $\pm 0.2$  mmHg
- Zero Drift
- Less than  $\pm 0.2$  mmHg in 24 hours, (at constant temperature)
- Blood Pressure Accuracy
- $\pm 2$  mmHg or  $\pm 2\%$ , whichever is greater, exclusive of transducer
- Blood Pressure Linearity
- within 1% across entire range
- Waveform Frequency Response: 0 - 15 Hz
- Sampling Rate: 320 Hz
- Fault Detection
- Transducer in/out
- Cable out
- Data Storage:
- Systolic, Diastolic and Mean
- Alarms

## Cardiac Output and Temperature

- Adapter and Compatibility Cables
- COSET Interface cable
- Ice Bath Cardiac Output interface cable
- Dual temperature interface cable (ysi-400)
- Temperature Range
- Blood temperature: 27°C to 45°C (80.6° to 113°F)
- Injectate temperature: 0°C to 25°C (32°C to 77°F)
- Body temperature: 0°C to 45°C (32°C to 109.4°F)
- Accuracy
- Blood temperature:  $\pm 0.1^\circ\text{C}$  (32.18°F)
- Injectate temperature:  $\pm 0.1^\circ\text{C}$  (32.18°F)
- Excitation :10 $\mu$ A, maximum
- Frequency Response: 0 to 15 Hz
- Cardiac Output Determination Range
- 0 to 20 liters per minute
- Injectate Volumes
- 1, 3, 5, and 10cc
- Displayed Data
- Cardiac Output, Cardiac Index, Stroke Volume, Stroke Volume Index, Blood Temperature, Injectate Temperature, Trial Number
- Data Storage:
- In Cardiac Output mode
- Cardiac Output
- Hemodynamic Calculation results
- Measuring time
- In Two Temp mode:
- Temperatures and Delta-Temp
- Temperature Alarms
- End Tidal CO<sub>2</sub> Microstream**
- LED for function indication
- Air outlet
- Displayed Data
- Waveform labels and annotations
- EtCO<sub>2</sub>, inCO<sub>2</sub> and respiration rate values
- CO<sub>2</sub> Display Range: 0-100 mmHg
- Typical Accuracy:
- $\pm 2$  mmHg for CO<sub>2</sub> range of 0-38 mmHg
- $\pm 5\%$  for CO<sub>2</sub> range of 39-99 mmHg + 0.08% for every 1 mmHg above 38 mmHg
- Respiration Rate
- 0 to 70 bpm +/- 1 bpm
- 71 to 120 bpm +/- 2 bpm
- 121 to 150 bpm +/- 3 bpm
- Rise Time: 190 msec (10% - 90%)
- Delay Time: 2.7 Sec (10% - 90%) typical
- CO<sub>2</sub> Alarm Limits:
- 0 to 100 mmHg
- 0 to 10%
- 0 to 15 kPa
- Accuracy:
- for % measurement: 0.1%
- for mmHg measurement: 1mm
- Respiration Rate Alarm Limits:

- Neonatal: 0 to 150 BMP
- Adult: 0 to 50 BPM
- Sidestream Flow Rate:
- 50 ml/min. nominal
- Start-up Time:
- Response time: 30 sec. typical
- Automatic Compensation:
- At least once per hour
- Ambient Temperature:
- 0-65°C Sidestream
- Humidity:
- 10-95% RH, non-condensing
- Barometric Pressure:
- 430 to 795 Hg (-1250 to 15,000 ft.)
- Data Storage:
- EtCO<sub>2</sub>, inCO<sub>2</sub> and Respiration Rate values
- Alarms
- Apnea Alarm
- Universal Input**
- Interface to other vendor device protocols in RS232
- Cable In/Out Detection
- Provides electrical isolation between
- VitaLogik and external device/s**
- Data Display
- Tabular charts
- Graphic trends
- Electrical Specifications**
- Main Processing Unit
- AC Power Input
- 90-132/180-264 VAC, single phase, at 47-63 Hz.
- Maximum current:
- Dual fuse: each 3.15A, 250V. Slow Blow.
- AC Power Output for Local Display
- 90-132/180-264 VAC at 47-63 Hz, single phase.
- Through the MPU power switch.
- Maximum Output power: - 130W
- Environmental Specifications**
- Operating Conditions
- Temperature:
- +5°C to +40°C
- Humidity:
- 10 to 95 percent, non-condensing
- Altitude:
- -350 to 3050 meters (-1300 to 10,000 feet)
- Vibration/Shock:
- Per Mennen Medical: Design for Regulatory Storage Conditions
- Temperature:
- -15°C to +60°C
- Humidity:
- 10 to 95 percent, non-condensing
- Altitude:
- -350 to 5000 meters (-1300 to 17,000 feet)