



iMEC Series

Patient Monitor

Green Patient Monitor for More Efficient Bedside Care



100% Performance with 50% Energy

An innovative patient monitor with 'green' credentials, Mindray's iMEC helps you to reduce your hospital's ecological footprint and to contribute to a sustainable care environment.

Based on its optimized hardware design, iMEC achieves a **50% lower power consumption** compared to conventional patient monitors. This allows for an improved battery life and a fan-less design, providing cleaner and quieter performance. It also offers a robust but thin and lightweight structure, making iMEC very easy to carry.

The touch screen allows you to operate iMEC in a quick and convenient way.

With Wi-Fi capability, iMEC integrates seamlessly with Mindray's Hypervisor VI Central Monitoring System. This provides you with convenient access to real time patient information - even during transport.

Its preconfigured measurement parameters meet all standard clinical requirements and allow iMEC to operate in various hospital settings, including Emergency Rooms, Recovery Units, General Wards and Outpatient areas.



Exceptional Design and Cost-Effective Monitoring

"No-fan design" allows for a quiet care environment. Preventing dust collection and reduces the risk of airborne contamination.

Weighing from 2.6Kg to 3.6Kg with an integral **carry-handle**, the lightweight iMEC is ideal as a portable monitor.

Alarm light is visible from 360 degrees

The user-configurable **touch screen** is available in 8.4", 10.4" or 12.1" sizes, with 800 x 600 high-resolution and up to 8 traces.

Ergonomic buttons enable quick access to commonly used functions, such as alarm silence, alarm pause and start NIBP.

Optional measurement capability of IBP, Cardiac Output and EtCO₂ to meet your advanced monitoring requirements

The integral 3-trace **thermal recorder** provides waveform and data reports for diagnostic support.

Quick keys help caregivers to rapidly access frequently used functions such as trend review, and alarm settings and useful display modes, including large fonts and mini-trends.

Powerful data storage for up to 48 hours full-disclosure, 120 hours of tabular and graphic trends, 1,000 NIBP measurements and 100 alarm events.

Li-ion battery allows for up to 4 hours of continuous monitoring.



Reliable Technology for Improved Usability

Patient Care in One Touch

Through its simple and intuitive touch screen display, iMEC offers instant access to all functions and allows you to monitor your patients in a quicker and more convenient way.

Customizable hot keys provide shortcuts to the most frequently used functions, saving you time for patient care

Quick and Easy Monitoring

A compact and light weight design make iMEC easy to carry while optional rolling-stand and bedrail mounting allow for convenient in-hospital transport.

iMEC's user-friendly interface is intuitive and easy to use.

- Dynamic mini-trends provide up to 8 hours of useful information on your patient's status
- Large font display offers a clear view of all vital signs and allows you to monitor your patient from a distance.
- "View other bed" helps you to monitor other patients directly at the bedside on the iMEC without accessing the central station.

Auto detectable 3 or 5 lead ECG and self-adjusting ECG, SpO₂ and IBP waveforms allow you to spend more time on patient care and less time on operating the monitor.

The centralized alarm system enables you to quickly review and modify alarm settings.

The logical review of alarms, events, trends and full-disclosure data helps you to quickly and accurately assess a patient's situation.

With LAN and Wi-Fi capability, your iMEC can communicate with the HyperVisor VI Central Monitoring System both from the bedside and during transport.

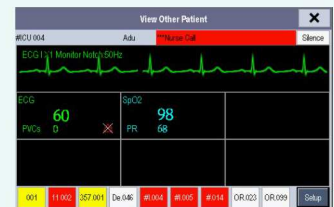
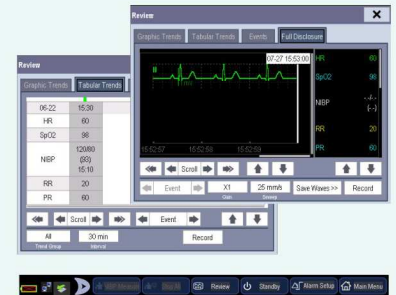
Optimized Structural Design – Simplifying Upgrades and Maintenance

The iMEC is designed to simplify maintenance and make it easy to perform future upgrades.

Future software upgrades can be performed on one iMEC or multiple iMECs simultaneously through a standard RJ45 port.

The USB port allows you to transfer patient data to a PC and to copy your personalized user settings to different iMECs.

The maintenance-free Li-ion battery offers up to 4 hours continuous monitoring.



Technical Specifications

iMEC12/ iMEC10

Monitor size: 360mm x273 mm x 122mm
 Weight: 3.2kg, Standard parameters configuration, including a lithium battery and a recorder;
 3.6kg, standard and optional parameters configuration, including touchscreen, a lithium battery and a recorder

iMEC8

Monitor size: 268mm x210 mm x 114mm
 Weight: 2.6kg, Standard parameters configuration ,including a lithium battery and a recorder;
 2.9kg, standard and optional parameters configuration, including touchscreen, a lithium battery and a recorder

Display

Type: iMEC 12: 12.1" color LED backlight LCD
 iMEC 10: 10.4" color LED backlight LCD
 iMEC 8: 8.4" color LED backlight LCD

Resolution: 800 x 600 pixels
 Waveforms: up to 8
 External display: 1 display through VGA

ECG

3-lead: I, II, III
 5-lead: I, II, III, aVR, aVL, aVF, V
 Gain: x0.125, x0.25, x0.5, x1, x2, x4, Auto
 Sweep speed: 6.25 mm/s, 12.5 mm/s, 25 mm/s, 50 mm/s
 Bandwidth: Diagnostic Mode: 0.05-150Hz
 Monitor Mode: 0.5-40Hz
 Surgical Mode: 1-20Hz
 ST Mode: 0.05-40Hz

Defib.protection: Withstand 5000V (360J)defibrillation

Recovery time: ≤10 s
 CMRR: Diagnostic Mode: ≥90dB
 Monitor Mode: ≥105dB
 Surgical Mode: ≥105dB
 ST Mode: ≥105dB

ST analysis: -2.0 to 2.0 mV
 Arr analysis: Yes

Heart Rate

Range: Adu: 15 to 300 bpm
 Ped: 15 to 350 bpm
 Neo: 15 to 350 bpm
 Resolution: 1 bpm
 Accuracy: ±1 bpm or ±1%, whichever is greater

Respiration

Range: Adu: 0 to 120 rpm
 Ped/Neo: 0 to 150 rpm
 Resolution: 1 rpm
 Accuracy: 7 to 150 rpm: ±2 rpm or ±2%, whichever is greater
 Not specified
 Lead: I or II (default: lead II)
 Sweep speed: 6.25 mm/s, 12.5 mm/s or 25 mm/s

SpO₂

Mindray/Nellcor Range: 0 to 100%
 Masimo Range: 1% to 100%
 Resolution: 1%
 Mindray accuracy: ±2% (70-100%, Adu/Ped, non-motion)
 ±3% (70-100%, Neo, non-motion)
 ±3% (70-100%, motion)
 Unspecified (0-69%)
 Masimo accuracy: ±2% (70-100%, Adu/Ped, non-motion)
 ±3% (70-100%, Neo, non-motion)
 ±3% (70-100%, motion)
 Unspecified (0-69%)
 Nellcor accuracy: Actual accuracy depends on probe. Refer to the operator's manual

Refreshing rate:

Pulse rate

Range: Mindray SpO₂: 20 to 254 bpm
 Masimo SpO₂: 25 to 240 bpm
 Nellcor SpO₂: 20 to 300 bpm
 IBP Module: 25 to 350 bpm
 NIBP Module: 40 to 240 bpm
 Accuracy: Mindray SpO₂: ±3 bpm (non-motion)
 ±5 bpm (motion)
 Masimo SpO₂: ±3 bpm (non-motion)
 ±5 bpm (motion)
 Nellcor SpO₂: ±3 bpm (20-250 bpm)
 Unspecified (251-300 bpm)
 IBP Module: ±1bpm or ±1%, whichever is greater
 NIBP Module: ±3bpm or ±3%, whichever is greater

Resolution:

Refreshing rate:

NIBP

Method: Automatic Oscillometric
 Operation mode: Manual, Auto, STAT
 Parameters: Systolic, Diastolic, Mean
 Systolic range: Adu: 40 to 270 mmHg
 Ped: 40 to 200 mmHg
 Neo: 40 to 135 mmHg

Diastolic range

Adu: 10 to 210 mmHg
 Ped: 10 to 150 mmHg
 Neo: 10 to 100 mmHg
 Mean range: Adu: 20 to 230 mmHg
 Ped: 20 to 165 mmHg
 Neo: 20 to 110 mmHg

Accuracy

Max mean error: ±5 mmHg
 Max standard deviation: 8 mmHg

Resolution:

1 mmHg

Temperature

Range: 0 to 50°C (32 to 122 F)
 Resolution: 0.1°C
 Accuracy: ±0.1°C or ±0.2 F (without probe)
 Parameters: T1, T2 and TD

IBP

Channel: up to 2 channels
 Range: -50 to 300 mmHg
 Resolution: 1 mmHg
 Accuracy: ±2% or ±1 mmHg, whichever is greater (without sensor)
 Sensitivity: 5 uV/mmHg/V
 Impedance range: 300 to 3000Ω

C.O.

Method: Thermodilution
 Range: C.O.: 0.1 to 20 L/min
 TB: 23 to 43°C
 TI: 0 to 27°C
 Accuracy: C.O.: ±5% or ±0.1 L/min, whichever is greater
 TB, TI: ±0.1°C (without sensor)
 C.O.: 0.1 L/min
 TB, TI: 0.1°C

Sidestream CO₂

CO₂ Range: 0 to 99 mmHg
 Accuracy: 0 to 40 mmHg: ±2 mmHg
 41 to 76 mmHg: ±5% of the reading
 77 to 99 mmHg: ±10% of the reading
 Sample flowrate: 70, 100 ml/min
 Accuracy: ±15% or ±15 ml/min, whichever is greater.
 ISO accuracy mode: 45 s
 Warm-up time: Full accuracy mode: 10 min
 0 to 120 rpm
 ±2 rpm
 AWRR range: When using neonatal watertrap and 2.5 m neonatal sampling line
 AWRR precision: <4 s @ 100 ml/min
 Response time: <5 s @ 70 ml/min
 When using adult watertrap and 2.5 m adult sampling line
 <6 s @ 100 ml/min
 <7 s @ 70 ml/min
 10 s, 15 s, 20 s, 25 s, 30 s, 35 s, 40 s

Apnea time:

Microstream CO₂

CO₂ Range: 0 to 99 mmHg
 Accuracy: 0 to 38 mmHg: ±2 mmHg
 39 to 99 mmHg: ±5% of reading +0.08% for every 1 mmHg(above 38mmHg)

Sample flowrate:

Accuracy: 50ml/min
 Accuracy: -7.5/+15ml/min
 Initialization time: 30 s (typical)
 awRR range: 0 to 150 rpm
 awRR precision: 0 to 70 rpm: ±1 rpm
 71 to 120 rpm: ±2 rpm
 121 to 150 rpm: ±3 rpm

Response time:

Apnea time: 2.9 s (typical)
 10 s, 15 s, 20 s, 25 s, 30 s, 35 s, 40 s

Mainstream CO₂

CO₂ Range: 0 to 150 mmHg
 Accuracy: 0 to 40 mmHg: ±2 mmHg
 41 to 70 mmHg: ±5% of the reading
 71 to 100 mmHg: ±8% of the reading
 101 to 150 mmHg: ±10% of the reading

awRR range:

Accuracy: 0 to 150 rpm
 Response time: ±1 rpm
 <60 ms

Data Storage

Trend data: 120 hrs (interval 1 min), 4 hrs (interval 5 sec), 1 hrs(interval 1 sec)
 Alarm events: 100 events and associated waveforms
 Arr. events: 100 Arr. events and associated waveforms
 NIBP: 1000 measurements
 Waveforms: Max. 48 hrs full disclosure waveforms(specific storage time depends on the type and numberof waveforms stored)

Battery

Type: Chargeable Lithium-Ion
 Number: 1
 Voltage: 11.1 VDC
 Capacity: 2600 mAh (4500 mAh optional)
 Run time: 2 hrs(2600 mAh)
 4 hrs(4500 mAh)
 Recharge time: 4.5 hrs maximum(2600 mAh)
 8 hrs maximum(4500 mAh)

Interfacing

Connectors: 1 AC power connector
 1 RJ45 network connector
 1 USB 2.0 connector
 1 VGA output connector
 1 multifunctional output connector (output ECG, IBP , nurse call and Defib. Synch. Signals)

Recorder

Type: Thermal array
 Speed: 25 mm/s, 50 mm/s
 Trace: 3

Power Requirements

AC Voltage: 100 to 240 VAC, 50/60Hz
 Current: 1.1 to 0.5 A

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