iMEC Series

Patient Monitor

Green Patient Monitor for More Efficient Bedside Care

mindray

healthcare within reach

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 $EtCO_2$ 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.

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

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.

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, SpO_2 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.
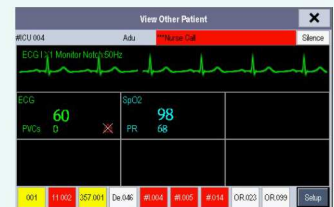
Optimized Structural Design – Simplifying Upgrades and Maintenance

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 a 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 a 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
0 to 6 rpm:	Not specified
Lead:	I or II (default: lead II)
Sweep speed:	6.25 mm/s, 12.5 mm/s or 25 mm/s

SpO$_2$

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:	1 s

Pulse rate

Range	Mindray SpO$_2$: 20 to 254 bpm
	Masimo SpO$_2$: 25 to 240 bpm
	Nellcor SpO$_2$: 20 to 300 bpm
	IBP Module: 25 to 350 bpm
	NIBP Module: 40 to 240 bpm
Accuracy	Mindray SpO$_2$: ±3 bpm (non-motion)
	±5 bpm (motion)
	Masimo SpO$_2$: ±3 bpm (non-motion)
	±5 bpm (motion)
	Nellcor SpO$_2$: ±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:	1 bpm
Refreshing rate:	1 s

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.   **(Not an option for iMEC8)**

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)
Resolution	C.O.: 0.1 L/min
	TB, TI: 0.1°C

Sidestream CO$_2$

CO$_2$ 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.
Warm-up time	ISO accuracy mode : 45 s
	Full accuracy mode : 10 min
AWRR range:	0 to 120 rpm
AWRR precision:	±2 rpm
Response time:	When using neonatal watertrap and 2.5 m neonatal sampling line
	<4 s @ 100 ml/min
	<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
Apnea time:	10 s, 15 s, 20 s, 25 s, 30 s, 35 s, 40 s

Microstream CO$_2$

CO$_2$ Range:	0 to 99 mmHg
Accuracy	0 to 38 mmHg : ±2 mmHg
	39 to 99 mmHg : ±5% of reading +0.08% for every 1mmHg(above 38mmHg)
Sample flowrate:	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:	2.9 s (typical)
Apnea time:	10 s, 15 s, 20 s, 25 s, 30 s, 35 s, 40 s

Mainstream CO$_2$

CO$_2$ 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:	0 to 150 rpm
Accuracy:	±1 rpm
Response time:	<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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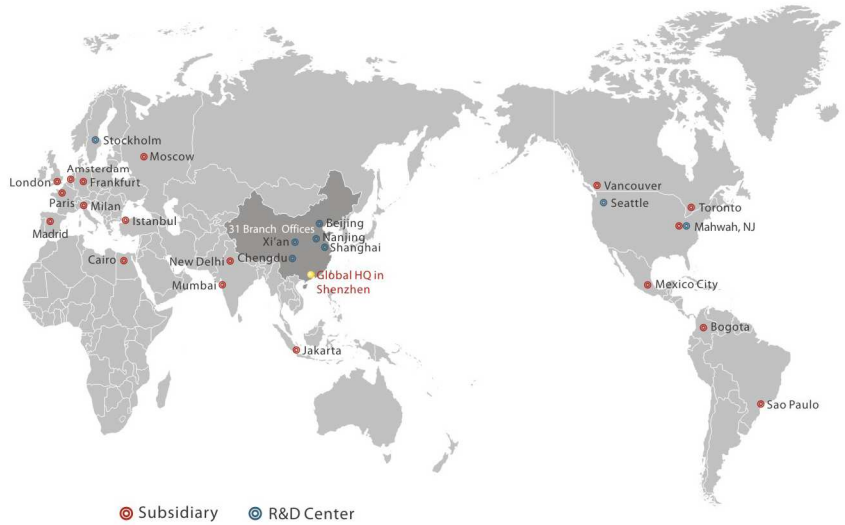Voice: (91-22) 4020-0000
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