

iMEC15
Patient Monitor

Intuitive patient monitor for
comprehensive bedside care



Large Display

iMEC15S patient monitor has a large 15 inch colour screen, which offers intuitive and instant access to all patient information at the point of care as well as allowing you to monitor your patients in a quicker and more convenient way.

Compact Design

iMEC15S patient monitor has a very compact and light weight design which helps it to easily fit into various clinical sites, helping to save valuable bedside space.

360 degree alarm light provides clear alarm indications at a distance

Advanced **12-lead ECG** inside and **Multi-Gas** measurement ready

15" touchscreen and trim knob navigation ease user operations

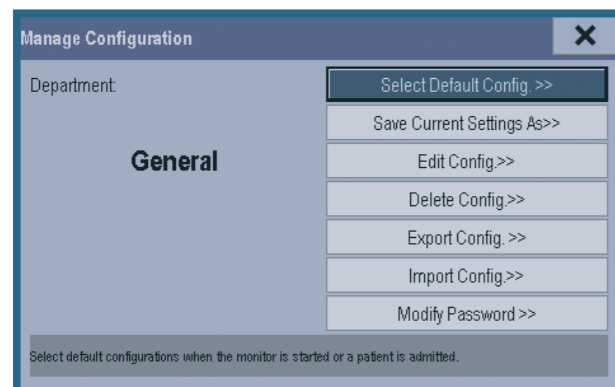


Integrated WiFi interface for wireless network and roaming

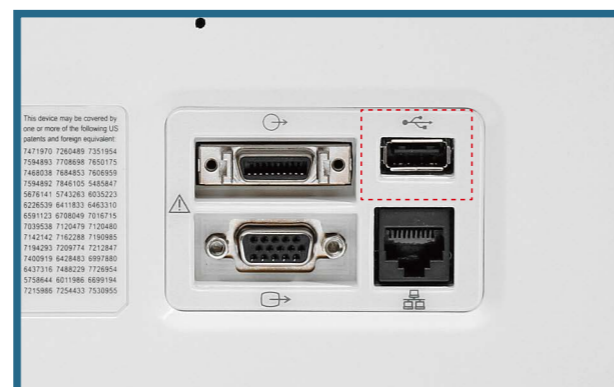
Barcode scanner and **network printing** support for convenient admission and report

No fan design contributes to a quiet and clean bedside environment

Extremely easy to use



User profiles management quickly customizes the monitor.



The **USB ports** allow you to transfer patient data and profiles.



Maintenance free **Li-ion battery** provides up to 2.5 hours backup power.



Multiple release mounting solutions for easier installation and transfer.

Advanced Measurements

Built on Mindray's strong heritage in patient monitoring, iMEC15S is configurable with integrated 3/5/12 lead ECG/Resp, SpO₂, TEMP, NIBP, 2ch IBP, EtCO₂ and C.O. measurements, and is also ready to work with Mindray's Multi-Gas measurement module. It is suitable for a wide range of clinical applications for more comprehensive care.



Industry leading performance

Sharing the same measurement platform as the Mindray monitors, iMEC15S already has industry-leading performance inside which is recognized by global leading institutions. For example, our NIBP performance is validated and certified by BHS (British Hypertension Society), our Multi-Gas module is integrated with AION™ Platinum Multigas Analyzer from Artema Technology™ and we provide sophisticated analysis for up to 24 kinds of ECG arrhythmia.

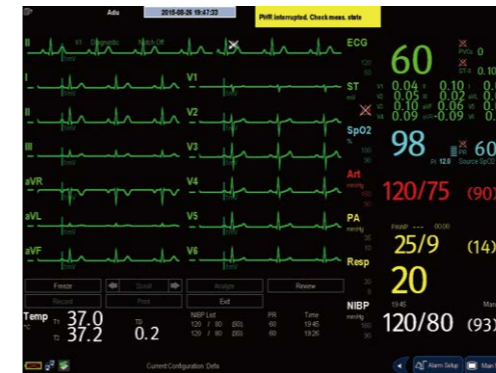


High quality, affordable cost

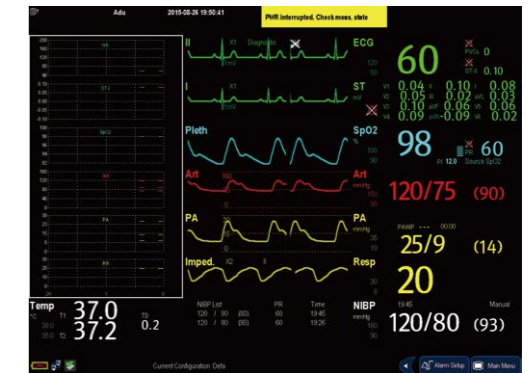
iMEC15S further promotes Mindray's high quality, low cost patient monitors. For example, our Artema EtCO₂ and Multi-Gas modules provide gold-standard measurement specifications, lower cost consumables and maintenance, as well as 40,000 hours MTBF time.

Faster Decisions

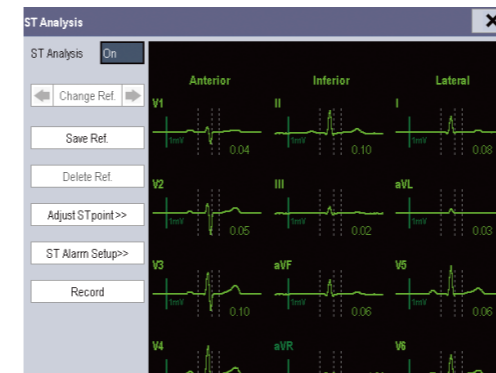
iMEC15S also gives you a suite of clinical decision support and workflow support applications.



12-lead ECG monitoring for faster ECG diagnosis



Onscreen high resolution Minitrend to quickly evaluate treatment effectiveness



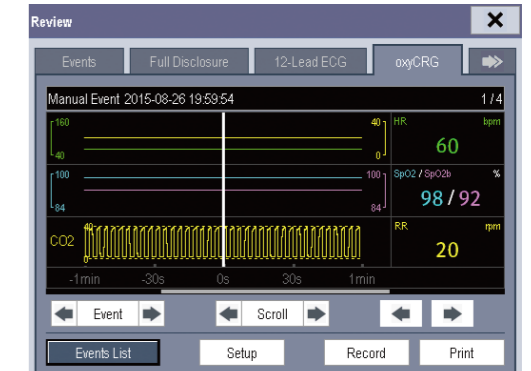
Realtime ST complex view and QT/QTc analysis with reference comparison



120 hours trend review and 48 hours full disclosure facilitate long-term patient status analysis



Multi-lead arrhythmia analysis with 24 event classifications including Atrial Fibrillation (AF)



OxyCRG trend for neonatal bradycardia and apnea detection



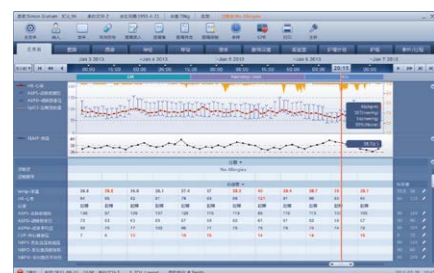
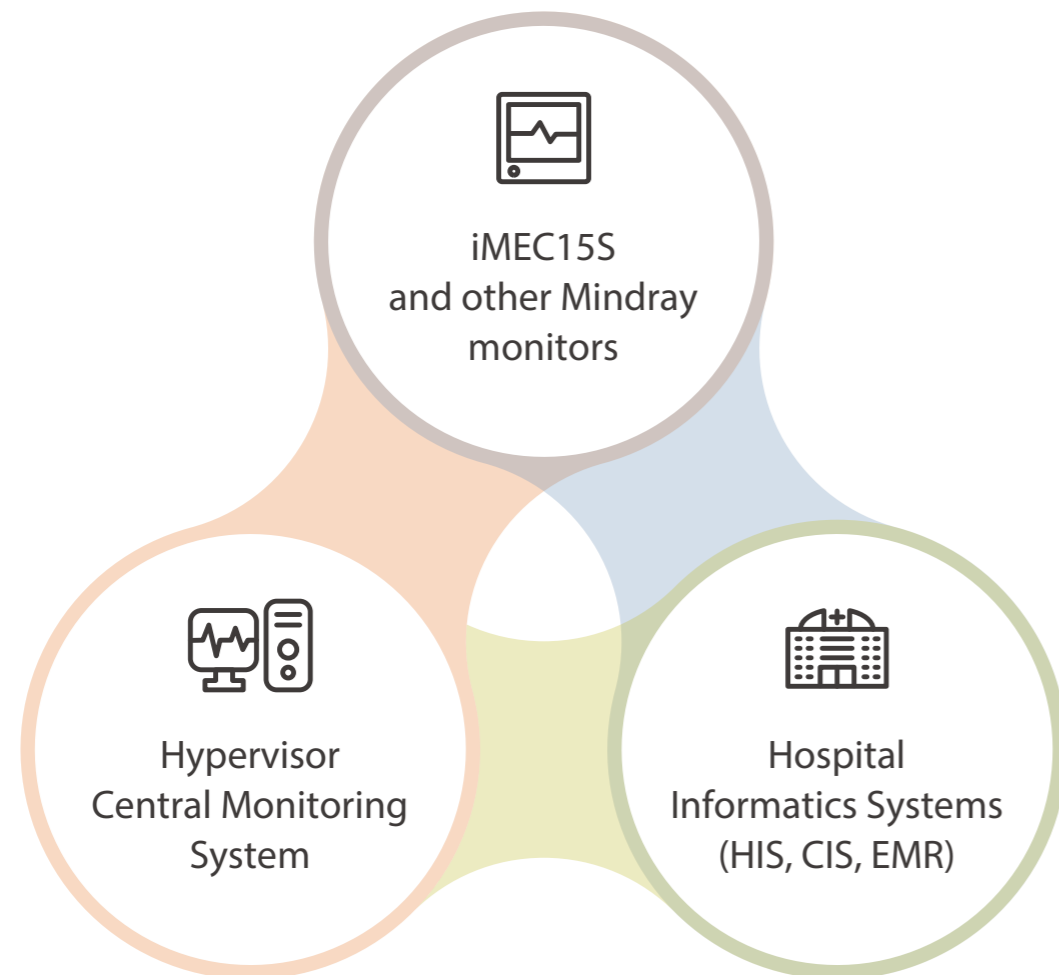
Realtime PPV guides fluid therapy for mechanically-ventilated patients



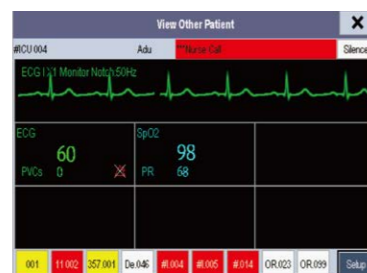
PI index of SpO₂ indicates the site perfusion level immediately

Seamless Connectivity

The iMEC15S patient monitor provides powerful IT capability to fit seamlessly into today's informatics world. Bed-to-bed view and care group alarm watch enable remote collaboration between points of care. Integrated hardwired or wireless network connects bidirectionally with Mindray's Hypervisor central station as well as eGateway. Built-in HL7 interface synchronizes patient data with your hospital EMR system for easy documentation and decision-making.



HL7 and IHE compliance solution interoperates with hospital IT systems



Caregroup alarm watch enables remote alarm escalation and silence.



Hypervisor monitors up to 64 patients at one central station for one-stop decision making

Technical Specifications

Physical Dimensions

Monitor size: 320mm x 425mm x 168mm
Weight: <6.0kg, Standard parameters configuration, including a lithium battery and a recorder

Display

Type: 15" LED backlight LCD screen
Resolution: 1024x768 pixels
Waveforms: up to 13
External display: 1 display through VGA

ECG

3-lead: I, II, III
5-lead: I, II, III, aVR, aVL, aVF, V
12-lead: I, II, III, aVR, aVL, aVF, V1 ~ V6
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:

Recovery time: Withstand 5000V (360J)defibrillation
CMRR: ≤ 10 s
Diagnostic Mode: ≥ 90 dB
Monitor Mode: ≥ 105 dB
Surgical Mode: ≥ 105 dB
ST Mode: ≥ 105 dB

ST analysis:

Arr analysis: Yes, 24 classifications, including AF

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 $\pm 1\%$, 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 $\pm 2\%$, whichever is greater
0 to 6 rpm: Not specified
I or II (default: lead II)
Sweep speed: 3mm/s, 6.25 mm/s, 12.5 mm/s 25 mm/s or 50mm/s

SpO₂

Mindray/Nellcor Range: 0 to 100%
Resolution: 1%
Mindray accuracy: $\pm 2\%$ (70-100%, Adu/Ped, non-motion)
 $\pm 3\%$ (70-100%, Neo, non-motion)
 $\pm 3\%$ (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 SpO₂: 20 to 254 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)
Nellcor SpO₂: ± 3 bpm (20-250 bpm)
Unspecified (251-300 bpm)
IBP Module: ± 1 bpm or $\pm 1\%$, whichever is greater
NIBP Module: ± 3 bpm or $\pm 3\%$, 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

Mean range Adu:

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: $\pm 0.1^\circ\text{C}$ or $\pm 0.2^\circ\text{F}$ (without probe)
Parameters: T1, T2 and TD

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.: $\pm 5\%$ or ± 0.1 L/min, whichever is greater
TB, TI: $\pm 0.1^\circ\text{C}$ (without sensor)
Resolution C.O.: 0.1 L/min
TB, TI: 0.1°C

IBP

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

Sidestream CO₂

CO₂ Range: 0 to 99 mmHg
Accuracy 0 to 40 mmHg: ± 2 mmHg
41 to 76 mmHg: $\pm 5\%$ of the reading
77 to 99 mmHg: $\pm 10\%$ of the reading
70, 100 ml/min
 $\pm 15\%$ or ± 15 ml/min, whichever is greater.
Sample flowrate: 45 s
Accuracy: 10 min
Warm-up time ISO accuracy mode: 0 to 120 rpm
Full accuracy mode: ± 2 rpm
AWRR range: ± 2 rpm
AWRR precision: When using neonatal watertrap and 2.5 m neonatal sampling line
Response time: <4.5 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
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: $\pm 5\%$ 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
2.9 s (typical)
Response time: 10 s, 15 s, 20 s, 25 s, 30 s, 35 s, 40 s
Apnea time:

Mainstream CO₂

CO₂ Range: 0 to 150 mmHg
Accuracy: 0 to 40 mmHg: ± 2 mmHg
41 to 70 mmHg: $\pm 5\%$ of the reading
71 to 100 mmHg: $\pm 8\%$ of the reading
101 to 150 mmHg: $\pm 10\%$ of the reading
0 to 150 rpm
 ± 1 rpm
<60 ms

Multi-gas/O₂

Method: Infrared absorption
Gas: CO₂, O₂, N₂O, Des., Iso., Enf., Sev., Hal.
ISO accuracy mode: 45 s
10 min
Adu/Ped: 120, 150, 200 ml/min
Neo: 70, 90, 120 ml/min
Sample flow rate: ± 10 ml/min or $\pm 10\%$, whichever is greater
Accuracy: CO₂: 0 to 30%
O₂/N₂O: 0 to 100%
Hal/Iso/Enf: 0 to 30%
Des: 0 to 30%
Sev: 0 to 30%
2 to 100 rpm
awRR range: 2 to 60 rpm: ± 1 rpm
awRR accuracy: >60 rpm: unspecified
Apnea time: 20 - 40 s

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 number of waveforms stored)

Battery

Type: Chargeable Lithium-Ion
Number: 1 pc
Voltage: 11.1 VDC
Capacity: 2600 mAh or 4500 mAh(default: 2600 mAh)
Run time: more than 1.5 hrs for 2600 mAh, more than 2.5 hrs for 4500 mAh
Recharge time: 4.5 hrs maximum for 2600 mAh, 8 hrs maximum for 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: 1.5to 0.75 A