

Technical Specifications

**uMEC10**  
Monitor size: 315mm x 155 mm x 220mm  
Weight: ≤3.5kg, Standard parameters configuration, including a lithium battery and a recorder

**uMEC12**  
Monitor size: 345mm x160mm x 255mm  
Weight: ≤4kg, Standard parameters configuration, including a lithium batter and a recorder

**Display**  
Type: uMEC10: 10.4" color LED, or touchscreen  
uMEC12: 12.1" color LED, or touchscreen  
Resolution: 800 x 600 pixels  
Waveforms: uMEC10: up to 7  
uMEC12: up to 11  
External display: 1 display through VGA

**ECG**  
Lead set: 3-lead: I, II, III  
5-lead: I, II, III, aVR, aVL, aVF, V  
Automatic 3/5 – lead recognition  
x0.125, x0.25, x0.5, x1, x2, x4, Auto  
Gain: 6.25 mm/s, 12.5 mm/s, 25 mm/s, 50 mm/s  
Sweep speed: Diagnostic Mode: 0.05-150Hz  
Bandwidth: Monitor Mode: 0.5-40Hz  
Surgical Mode: 1-20Hz  
ST Mode: 0.05-40Hz  
Withstand 5000V (360J)defibrillation  
Defib.protection: <10 s  
Recovery time: Diagnostic Mode: >90dB  
CMRR: Monitor, Surgical, ST Mode: >105dB  
Range:-2.0 to 2.0 mV  
ST analysis: Accuracy: ±0.02 mV or ±10 %, whichever is greater (-0.8 to +0.8 mV)  
Resolution: 0.01mV  
Arr analysis: Yes, multi-lead, 24 classifications, including AF  
QT analysis: Yes

**Heart Rate**  
Range: Adu: 15 to 300 bpm  
Ped/Neo: 15 to 350 bpm  
Resolution: 1 bpm  
Accuracy: ±1 bpm or ±1%, whichever is greater  
HR analysis: Yes

**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  
Sweep speed: 3mm/s, 6.25 mm/s, 12.5 mm/s, 25 mm/s or 50mm/s

**SpO<sub>2</sub>**  
Range: 0 to 100%  
Resolution: 1%  
Accuracy: ±2% (70-100%, Adu/Ped)  
±3% (70-100%, Neo)  
Unspecified (0-69%)  
Refreshing rate: ≤2 s

**Pulse Rate**  
Range: 20 to 300 bpm (from SpO<sub>2</sub>)  
30 to 300 bpm (from NIBP)  
25 to 350 bpm (from IBP)  
Accuracy: ±3 bpm (from SpO<sub>2</sub>)  
±3bpm or ±3%, whichever is greater (from NIBP)  
±1bpm or ±1%, whichever is greater (from IBP)  
Resolution: 1 bpm  
Refreshing rate: ≤2 s

**NIBP**  
Method: Automatic Oscillometric  
Operation mode: Manual, Auto, STAT, Sequence  
Parameters: Systolic, Diastolic, Mean  
Systolic range: Adu: 25 to 290 mmHg  
Ped: 25 to 240 mmHg  
Neo: 25 to 140 mmHg  
Diastolic range: Adu: 10 to 250 mmHg  
Ped: 10 to 200 mmHg  
Neo: 10 to 115 mmHg  
Mean range: Adu: 15 to 260 mmHg  
Ped: 15 to 215 mmHg  
Neo: 15 to 125 mmHg  
Accuracy: Max mean error:±5 mmHg  
Max standard deviation: 8 mmHg  
Resolution: 1 mmHg  
NIBP analysis: Yes

**Temperature**  
Channel: 1-ch (uMEC10), 2-ch (uMEC12)

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

**IBP (for uMEC 12 only)**  
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 μV/V/mmHg  
Impedance range: 300 to 3000Ω

**C.O. (for uMEC 12 only)**  
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

**CO<sub>2</sub> (for uMEC 12 only)**  
Mode: Sidestream  
Range: 0 to 20% (0-152mmHg under standard atmospheric pressure)  
Accuracy: ±0.1% (<1%)  
±0.2% (1 to 4.9%)  
±0.3% (5 to 6.9%)  
±0.4% (7 to 11.9%)  
±0.5% (12 to 12.9%)  
±(0.43%+8%rel) (13 to 20%)  
Unspecified (over 20%)

Sample flowrate: 90, 120 ml/min (Sidestream)  
Sample flowrate Accuracy:±15% or ±15 ml/min, whichever is greater.  
Start-up time: <90s  
Response time: When using adult water trap and 2.5 m adult sampling line  
<5.5 s @120 ml/min  
When using neonatal water trap and 2.5 m neonatal sampling line  
<4.5 s @ 90 ml/min  
AWRR range: 0 to 150 rpm  
AWRR precision: <60rpm: ±1  
60-150 rpm: ±2  
Apnea time: 10 s, 15 s, 20 s, 25 s, 30 s, 35 s, 40 s

**Data Storage**  
Trend data: 1200hrs (Interval 10min), 120 hrs (interval 1 min), 4 hrs (interval 5 sec)  
Alarm events: 1800 events and associated waveforms  
Arr. events: 128 Arr. events and associated waveforms  
NIBP: 1600 measurements  
Waveforms: Max. 48 hrs full disclosure waveforms

**Battery**  
Type: 1 Build-in chargeable Lithium-ion battery  
Voltage: 11.1 VDC  
Capacity: 2500 mAh (5000 mAh optional)  
Run time: 4 hrs(2500 mAh), 8 hrs (5000 mAh)  
Recharge time: 2500 mAh: 4 hrsmaximum (power off )  
5000 mAh: 8 hrsmaximum (power off )

**Interfacing**  
Connectors: 1 AC power connector  
1 RJ45 network connector  
2 USB 2.0 connector  
1 VGA output connector  
1 multifunctional output connector (output ECG,nurse call and Defib. Synch. Signals)  
WiFi support: Yes, 5G/2.4G dual band  
Barcode Scanner: Support  
Network printer: Support

**Recorder**  
Type: Thermal array  
Speed: 12.5mm/s, 25 mm/s, 50 mm/s  
Trace: 3

**Power Requirements**  
AC Voltage: 100 to 240 VAC, 50/60Hz  
Current: 1.5 A

**Environmental Requirements**  
Temperature: Operating: 0 to 40°C(32 to 104 °F)  
Storage: -20 to 60°C (-4 to 140 °F)  
Humidity: Operating: 15 to 95 % (non condensing)  
Storage: 10 to 95 % (non condensing)  
Barometric: Operating: 427.5 to 805.5 mmHg (57.0 to 107.4 kPa)  
Storage: 120 to 805.5 mmHg (16.0 to 107.4 kPa)

\*Not all of the functions are available in all geographies, please contact with local Mindray sales representative for more information.



uMEC  
Patient Monitor

Taking high cost out of  
quality healthcare



www.mindray.com

P/N:ENG-uMEC-210285X4P-20181128  
©2018 Shenzhen Mindray Bio-Medical Electronics Co.,Ltd. All rights reserved.

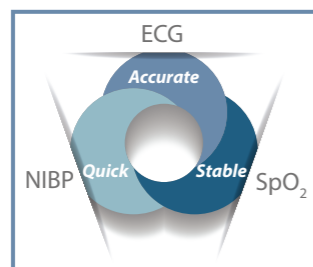
**mindray**  
healthcare within reach



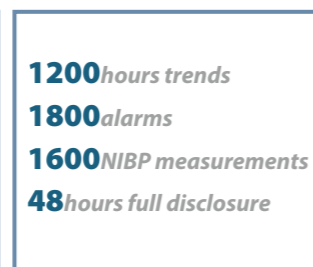
## Advanced Performance

With Mindray's 25-year experience in patient monitoring, uMEC series patient monitors cater to clinical needs by offering precise and stable measurement of essential parameters. When monitoring is reliable, you can naturally be more confident with your clinical decisions.

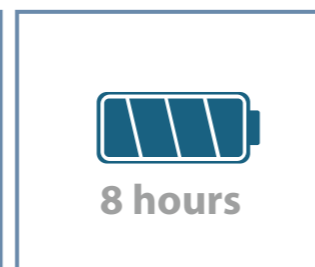
- Mindray's patented Multi-lead ECG Algorithm greatly improves the accuracy of measurement and reduces false alarms
- NIBP quick-measurement technique reduces the discomfort caused by cuff inflation, especially for patients suffering from hypertension or hypotension
- Anti-interference SpO<sub>2</sub> algorithm provides accurate measurement even when the patient is mobile
- Large capacity for data storage enables comprehensive review of patient's history data, and external USB storage devices are also supported
- 8-hour continuous runtime with one Lithium-ion battery



Essentially advanced measurements



Huge data capacity



Long battery working time



## Easy to Use

As an user-friendly patient monitor, uMEC helps to simplify workflow and improve efficiency. The monitor provides very intuitive user interface to help faster and easier applications even for new users. Caregivers need less time for training, and get more time for patient care.

- 10.4 inch/12.1 inch high resolution LED screen with optional touch screen
- Supports various monitoring screen layouts for different clinical needs, including large font, full/half screen 7-lead monitoring, view other bed, etc.
- Default settings satisfy general clinical requirements, no need to adjust the settings before using and helps you get started quickly
- Statistics for heart rate changes and ambulatory blood pressure monitoring, making ups and downs visible
- Less than 3.5kg weight with battery makes it very portable
- Unique accessory cabinet makes accessories management effective
- One piece design makes cleaning easier



HR/BP Analysis



User-friendly Interfaces



Unique accessory cabinet



## High Durability

To be effective in different environment, uMEC has passed strict electrical safety tests and reliability tests. It is extremely durable and has a long life span.

- Working temperature is 0~40°C, unaffected by extremes
- 0.75 m drop-protection and IPX1 water resistance
- Strong plastic housing resists aging and yellowing, with high corrosion resistance
- Low power consumption and fanless design makes it environmentally friendly and reduces the risk of cross contamination
- Mindray accessories are highly reliable with quality material and production technique



High-quality Accessories



Drop protection



Compatible with multiple cleaning agents