## Technical Specifications

### uMEC10

| | |
|---|---|
| Monitor size: | 315mm x 155 mm x 220mm |
| Weight: | ≤3.5kg, Standard parameters configuration, including alithium battery and a recorder |

### uMEC12

| | |
|---|---|
| Monitor size: | 345mm x160mm x 255mm |
| Weight: | ≤4kg, Standard parameters configuration,including alithium battery and a recorder |

### Display

| | |
|---|---|
| Type: | uMEC10: 10.4" color TFT LCD, or touchscreen<br>uMEC12: 12.1" color TFT LCD, or touchscreen |
| Resolution: | 800 x 600 pixels |
| Waveforms: | uMEC10: up to 7<br>uMEC12: up to 8 |
| External display: | 1 display through VGA |

### ECG

| | |
|---|---|
| Lead set: | 3-lead:I, II, III<br>5-lead: I, II, III, aVR, aVL, aVF, V<br>Automatic 3/5 – lead recognition |
| 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<br>Monitor Mode: 0.5-40Hz<br>Surgical Mode: 1-20Hz<br>ST Mode: 0.05-40Hz |
| Defib.protection: | Withstand 5000V (360J):defibrillation |
| Recovery time: | <10 s |
| CMRR: | Diagnostic Mode: >90dB<br>Monitor, Surgical, ST Mode: >105dB |
| ST analysis: | Range:-2.0 to 2.0 mV<br>Accuracy: ±0.02 mV or ±10 %, whichever is greater (-0.8 to +0.8 mV)<br>Resolution: 0.01mV |
| Arr analysis: | Yes, multi-lead, 24 classifications |
| QT analysis: | Yes |

### Heart Rate

| | |
|---|---|
| Range: | Adu: 15 to 300 bpm<br>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<br>Ped/Neo: 0 to 150 rpm |
| Resolution: | 1 rpm |
| Accuracy: | 7 to 150 rpm: ±2 rpm or ±2%, whichever is greater<br>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 |

### $SpO_2$

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

### Pulse Rate

| | |
|---|---|
| Range: | 20 to 300 bpm (from $SpO_2$)<br>30 to 300 bpm (from NIBP)<br>25 to 350 bpm (from IBP) |
| Accuracy: | ±3 bpm (from $SpO_2$)<br>±3bpm or ±3%, whichever is greater (from NIBP)<br>±1bpm or ±1%, whichever is greater (from IBP) |
| Resolution: | 1 bpm |
| Refreshing rate: | ≤2 s |

### NIBP

| | |
|---|---|
| Method: | Automatic Oscillometric |
| Operation mode: | Manual, Auto, STAT |
| Parameters: | Systolic, Diastolic, Mean |
| Systolic range | Adu:25 to 290 mmHg<br>Ped: 25 to 240 mmHg<br>Neo: 25 to 140 mmHg |
| Diastolic range | Adu: 10 to 250 mmHg<br>Ped: 10 to 200 mmHg<br>Neo: 10 to 115 mmHg |
| Mean range: | Adu: 15 to 260 mmHg<br>Ped: 15 to 215 mmHg<br>Neo: 15 to 125 mmHg |
| Accuracy: | Max mean error:±5 mmHg<br>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℃ (32 to 122 ℉) |
| Resolution: | 0.1℃ |
| Accuracy: | ±0.1℃ or ±0.2 ℉ (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<br>TB: 23 to 43℃<br>TI:0 to 27℃ |
| Accuracy: | C.O.:±5% or ±0.1 L /min, whichever is greater<br>TB, TI: ±0.1℃ (without sensor) |
| Resolution: | C.O.: 0.1 L/min<br>TB, TI: 0.1℃ |

### $CO_2$ (for uMEC 12 only)

| | |
|---|---|
| Mode: | Sidestream, Low flow |
| Range: | 0 to 20% (0-152mmHg under standard atmospheric pressure) |
| Accuracy: | ±0.1% (<1%)<br>±0.2% (1 to 4.9%)<br>±0.3% (5 to 6.9%)<br>±0.4% (7 to 11.9%)<br>±0.5% (12 to 12.9%)<br>±(0.43%+8%rel) (13 to 20%)<br>Unspecified (over 20%) |
| Sample flowrate: | 90, 120 ml/min （Sidestream）<br>50 ml/min (Low flow) |
| 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<br><5.5 s @120 ml/min<br>When using neonatal water trap and 2.5 m neonatal sampling line<br><4.5 s @ 90 ml/min<br>When using low flow accessories<br><5 s @ 50 ml/min |
| AWRR range: | 0 to 150 rpm |
| AWRR precision: | ＜60rpm: ±1<br>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 (4500 mAh optional) |
| Run time: | 4 hrs(2500 mAh), 8 hrs (4500 mAh) |
| Recharge time: | 2500 mAh:4 hrsmaximum (power off )<br>4500 mAh: 8 hrsmaximum (power off ) |

### Interfacing

| | |
|---|---|
| Connectors: | 1 AC power connector<br>1 RJ45 network connector<br>2 USB 2.0 connector<br>1 VGA output connector<br>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℃(32 to 104 ℉)<br>Storage: -20 to 60℃ (-4 to 140 ℉) |
| Humidity: | Operating: 15 to 95 % (non condensing)<br>Storage: 10 to 95 % (non condensing) |
| Barometric: | Operating: 427.5 to 805.5 mmHg (57.0 to 107.4 kPa)<br>Storage: 120 to 805.5 mmHg (16.0 to 107.4 kPa) |

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P/N:ENG-uMEC Series-210285x4P-20160225

CE 0123

mindray

# uMEC Series

## Patient Monitor

Take high cost out of quality healthcare

mindray
healthcare within reach

## Advanced Performance

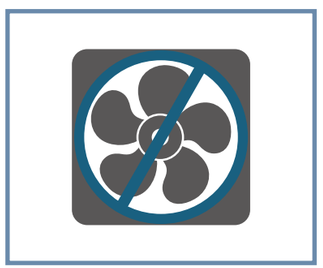
- Comprehensive measurements up to IBP, C.O. and CO2
- Enhanced high-performance Mindray parameter algorithms that are caring for millions of patients give the caregiver more confidence.
- Stronger data storage and external USB stick capability
- Latest technology is also implemented for modern clinical applications, such as 5G WiFi.

## High Durability

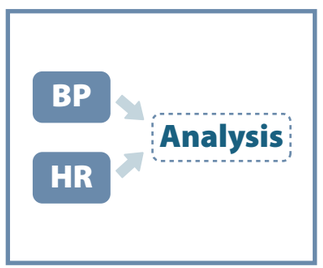
- Extended battery life supports up to 8 hours of continued monitoring
- Intensively strong plastic housing resists aging and affords more disinfectants.
- IPX1 water-proof, and 0.75m falling-down resistance is supported.
- Compact system design and high quality components applied makes the whole machine controlled under low failure rate to reach a longer use life.

## Easy to Use

- High resolution 10.4", 12.1"TFT LCD and optional touchscreen provided for full range of patient types.
- Consistent Mindray user interface and maximum 3-touches to most clinical functions helps the clinician get up and running quickly even for a green hand.
- Easy connectivity to Mindray central monitoring system via wired and wireless
- Lighter and more portable design compacting with various mounting solutions, helps you for easier and more flexible work within the care environment.



Low power consumption design makes it no need of an internal fan, which leads to lower failure rate and cleaner and quieter clinical environment.




The latest 24hour HR and BP measurements could be collected and analyzed. The statistics includes such as highest/lowest value and time, average value etc. to get you a brief map of the patient condition.

Up to 48 hours full disclosure and 50 days trend review enhances your confidence for decision making and external USB stick is supported to get it more easier.

Intensively strong plastic housing resists aging better and the seamless integration design makes it more durable and easier to clean and disinfect.

Easy-to-use interface and optional touchscreen makes the operation more smoothly. And considerable ergonomic design of 10° screen angle gets you the best perspective.

Creative accessory storage design prevents you from a bedside mess, and makes you easier to get the start for monitoring.