

# BeneVision

## Patient monitor

### Physical Specifications

Weight  
N22:  
N19:  
Size  
N22:  
N19:  
Main

### Display

Type  
Resolut  
Screen

Wave

### ECG

Meas  
Lead  
Sw  
Gain  
Wa  
Inp  
Ele  
Bar

CMRR

Pace de  
A  
W  
Ris

Defibrilla  
Defib. Rec  
ESU recove  
Provides Gl  
Provides Min  
(\* These ECG s

### Heart Rate

Measurement Ra  
Adult:  
Pediatric/Ne

LMxD36T68M3MCz30hmcc/yD:m56C3xzR66M:050z3CC  
z3CRRT6M:.5D3CMCz3)

Adult: 15 to 260 mmHg  
Pediatric: 15 to 215 mmHg  
Neonate: 15 to 125 mmHg

**Accuracy**

Max Mean Error:  $\pm 5$  mmHg  
Max Standard Deviation: 8 mmHg

**Cuff Deflation Technique Step bleed**

**Initial Cuff Inflation**

Adult: 80 to 280 mmHg (default: 160 mmHg)  
Pediatric: 80 to 210 mmHg (default: 140 mmHg)  
Neonate: 60 to 140 mmHg (default: 90 mmHg)

**Over Pressure Protection**

Adult/ Pediatric:  $297 \pm 3$  mmHg  
Neonate:  $147 \pm 3$  mmHg

**Max Measurement time**

Adult/Pediatric: 180 sec  
Neonate: 90 sec

**Assisting Venous Puncture** Yes

Pulse Rate Range 30 to 300 bpm

Pulse Rate Accuracy  $\pm 3$  bpm or  $\pm 3\%$ , whichever is greater

**IBP**

Meet standard of IEC 60601-2-34.

Number Up to 8 channels

Measurement Range -50 to 360 mmHg

Resolution 1 mmHg

Accuracy  $\pm 1$  mmHg or  $\pm 2\%$ , whichever is greater  
(excluding sensor error)

Sensitivity 5 V/V/mmHg

Impedance Range 300 to 3000

PPV Range 0 to 50 %

PAWP Yes

ICP measurement Support

Support waveforms overlapping.

Pulse Rate Range 25 to 350 bpm

Pulse Rate Accuracy  $\pm 1$  bpm or  $\pm 1\%$ , whichever is greater

**Cardiac Output**

Method Thermodilution

Measurement Range 0.1 - 20 L/min

Resolution 0.1 L/min

awRR:  
Full Accuracy

1 rpm

## Recorder

Type	Thermal array
Speed	25 mm/sec, 50 mm/sec
Trace	Up to 3 (paper 50 mm width, 20 m length)

Supports two-slots recorder module.

## Alarms

Audible indicator	Yes, 4 different alarm tones, and prompt tone
Visible indicator	Red/yellow/cyan LED, and alarm message

Provide AlarmSight infographic alarm indicator.

Support iAlarm features (alarm limits recommendations, etc.)

Support iStatus combined alarms

## Data Storage

Trends Data	> 120 hrs @ 1min, 4 hrs @ 5 sec.
Events	1000 events, including parameter alarms, arrhythmia events, technical alarms, and so on.
NIBP	1000 sets
Interpretation of resting	12-lead ECG results 20 sets
Full disclosure	48 hours for all parameters and waveforms (8G storage card) 48 hours at maximum. The specific storage time depends on the waveforms stored and the number of stored waveforms. (2G storage card)
OxyCRG	48 hrs
ST review	120 hrs @1 min
Minitrend	Yes

## Special Functions

Clinical Assistive Application (CAA):

HemoSight™, ST Graphic™, SepsisSight™, BoA Dashboard™, EWS, GCS, ECG 24h Summary, Pace View, AF Summary, NeuroSight

Support calculations (drug, hemodynamic, Oxygenation, Ventilation, Renal), and Titration table.

Support wireless connection with BeneVision TM80 and BP10.

Support nView remote display tool

## Wi-Fi Communications

Protocol	IEEE 802.11a/b/g/n
Modulation Mode	DSSS and OFDM
Operating Frequency	IEEE 802.11b/g/n (2.4G): ETSI/FCC/KC: 2.4 to 2.483 GHz MIC: 2.4 to 2.495 GHz IEEE 802.11a/n (5G): ETSI: 5.15 to 5.35 GHz, 5.47 to 5.725 GHz FCC: 5.15 to 5.35 GHz, 5.725 to 5.82 GHz MIC: 5.15 to 5.35 GHz KC: 5.15 to 5.35 GHz, 5.47 to 5.725 GHz, 5.725 to 5.82 GHz
Channel Spacing	5 MHz @ 2.4 GHz (802.11 b/g/n) 20 MHz @ 5 GHz (802.11 a/n)
Wireless Baud Rate	IEEE 802.11a: 6 to 54 Mbps IEEE 802.11b: 1 to 11 Mbps IEEE 802.11g: 6 to 54 Mbps IEEE 802.11n: 6.5 to 72.2 Mbps
Output Power	< 20dBm (CE requirement: detection mode- RMS) < 30dBm (FCC requirement, detection mode- peak power)
Operating Mode	Infrastructure
Data Security	WPA-PSK, WPA2-PSK, WPA-Enterprise, WPA2-Enterprise (EAP-FAST, EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, PEAP-TLS, LEAP) Encryption: TKIP and AES

## Output

Auxiliary Output Standard	Meets the requirements of ANSI/AAMI/IEC 60601-1 for short-circuit protection and leakage current
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## ECG Analog Output

Bandwidth (-3 dB; reference frequency: 10 Hz)

Diagnostic Mode: 0.05 to 150 Hz

Monitor Mode: 0.5 to 40 Hz

Surgical Mode: 1 to 20 Hz

ST Mode: 0.05 to 40 Hz

QRS Delay 25 ms (in diagnostic mode, and non-paced)

Sensitivity 1 V/mV, ± 5 %

## Pace Enhancement

Signal Amplitude: Voh 2.5 V

Pulse Width: 10 ms ± 5 %

Signal Rising and Falling Time:

100 s

## IBP Analog Output

Bandwidth (-3 dB; reference frequency: 10 Hz)

0 to 40 Hz

Max. Transmission Delay 30 ms

Sensitivity 1 V/100 mmHg, ± 5 %

## Interfacing

### Main Unit

- 1 AC Power Connector
- 2 RJ45 Network Connector, 100 Base-TX, IEEE 802.3
- 6 USB 2.0 Connector
- 3 Nonstandard USB SMR Connector
- 1 VP Connector, VP1 for the secondary display
- 1 BNC Connector
- 1 Equipotential Grounding Terminal

### Modular iView

- 1 VP Connector, VP2
- 4 USB 2.0 Connector
- 1 RJ45 Network Connector, 100 Base-TX, IEEE 802.3

### Multifunction Connector for Defib Sync and Analog Output

1 on multi-parameter module

Barcode Scanner	Support 1D and 2D barcode
Keyboard & Mouse	Support wire and wireless type
Remote Control	Support
Network Printer	Support

## Battery

Type	Rechargeable lithium-ion
Number of Battery	1
Capacity	5600mAh
Run Time	> 1 hrs when powered by a new fully-charged battery at 25 °C±5 °C with 12-lead ECG, Resp, SpO2, 4-ch IBP, 2-ch Temp, CO2, C.O. and NIBP measurements every 15 min, WiFi enabled, and screen brightness set to default 5, 5 hrs to 90% when the monitor is off.
Recharge Time	

## Power Requirements

AC Voltage	100 to 240 VAC (±10 %)
Current	2.8 to 1.6 A
Frequency	50 Hz/60 Hz (±3 Hz)

## Environmental

Temperature	Operating: 0 to 40 °C (32 to 104 °F) StorageTac 3:rT6M3TRL6TC:H5x63Rxz8563TR3RT6TD
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[www.mindray.com](http://www.mindray.com)

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